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# The Economics of Aging

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Papers presented in a seminar series sponsored by the Department of Economics at Western Michigan University

Myron H. Ross
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# 1 An Overview

Myron H. Ross
Western Michigan University

The purpose of this chapter is to comment on and give the general flavor of the papers presented in the seminar on the Economics of Aging given by the Department of Economics of Western Michigan University during the academic year 1983-84.

### *Munnell-Schulz*

Alicia Munnell provides an excellent account of the financial outlook for the social security system over the next 75 years. In retrospect she notes that the present day financial problems of the system have come about because of forecasting errors with regard to demographics and the economy.

Munnell emphasizes that the key relationship is the growth of nominal wages relative to the growth of the price level, i.e., the growth of real wages. Taxes depend mainly on the nominal wage level and social security benefits depend mainly on the price level because benefits are indexed. Thus, if nominal wages grow faster than the price level, taxes will grow relative to benefits.

In addition, Munnell underscores the fact that small errors in forecasting can have significant effects on how one views the viability of the social security system. In general, she finds that for the next 75 years the system will run surpluses. Munnell summarizes matters by asserting:

> During the period 1990-2020, almost no uncertainties exist about the adequacy of social security

> financing. Even under the pessimistic mortality and economic assumptions the system will run surpluses until 2013 and have positive fund balances until 2020.

She notes that even if the economy performs more poorly than anticipated under the pessimistic assumption that real wages grow less than 1 percent, revenues will still be adequate to cover benefits.

Could there be problems of managing this surplus? Munnell indicates that Congress has three alternatives:

(1) reduce social security tax rates.
(2) divert these surpluses to finance other programs.
(3) let tax rate increases planned in 1990 take effect.

Suppose surpluses are generated in excess of expectations and Congress does *not* reduce social security taxes or divert surpluses to finance other programs. It is possible that the surpluses generated may be so large that the trustees of the system (the Secretaries of Health and Human Services, Labor and Treasury) may be compelled to invest these funds in private securities, rather than public securities. Whichever alternative is chosen, there are potential problems.

If the trustees were to invest in privately held securities, it can be asked how the trustees will do this without destroying the traditional boundary between the private and public sectors. It is not out of the question that such a policy might result in cabinet officers deciding which large corporations to take over.

To give a rough order of magnitudes involved, for 1984 benefits from OASI, DI, and HI totaled $221.3 billion. Suppose, not unrealistically, the trust fund were double benefits, or $442.6 billion. The trustees could then purchase about 15 percent of the $3 trillion publicly held stock on the New York

Stock Exchange. By concentrating purchases of stock, the trustees could obtain a controlling interest in some corporations. If the trustees alternatively invested the surplus in the private bond market, the trustees may find that they have a controlling interest in corporations that end up in bankruptcy, as the bondholders are converted to stockholders.[1]

If the annual surplus of $442.6 billion were totally invested in U.S. Treasury securities, the trustees would be holding about 28 percent of the national debt. With a smaller percentage of the national debt held by the public and the banking system, it would probably significantly diminish the power of the Federal Reserve to control bank reserves via open market operations. In any event, the prospect of larger social security fund surpluses will not only change the social security system, but will also have a significant effect on the functioning of the economy.

In essence Munnell holds that the "crisis" in financing the social security system is almost entirely due to unforeseen circumstances—particularly the economic malaise of the last decade, with its low and declining growth rates, reduced productivity levels and high unemployment rates.

Schulz emphasizes that there is little payoff if we merely shift from social security to private pensions. He emphasizes that social security developed as a result of the failure of alternatives. In one sense, the development of social security was hardly revolutionary, since prior to World War II we already had an informal pay-as-you-go system whereby family members took care of the elderly. This informal private system, because of its shortcomings, gave way to the present social security system.

There is reason to believe that we need diversity of old age provisions, private as well as public. If we think of the provision for old age as an investment problem, then our aim is to

minimize risk by minimizing the variance around the mean retirement income, for a given return. This would call for diversification. That is, the variance for (say) a single public system of social security would be higher than a combined public and private system, as long as the returns from the two systems are independent. If the returns from private and public pension plans are negatively correlated, then the overall variance will be reduced further. Perhaps this negative relationship may have held during the last decade. With high rates of inflation the public social security benefits improved because of the upward bias in the consumer price index, while the private pension benefits worsened because of the lack of indexing. Thus in real terms the returns from private and public benefits appear to have moved in opposite directions.

This relationship may be changed if the U.S. Treasury were to issue (as the British Treasury does) a fully indexed bond. This would protect the individual against inflation and put private pensions on a par with public pensions when it comes to indexing.

### *Clark-Quinn*

Clark makes the fundamental point that the elderly are no more vulnerable to inflation than the rest of the population. The converse is a common and erroneous conclusion based on the argument that the elderly live on fixed incomes. Clark puts the problem in perspective when he says,

> Real income from current assets depends on the rate of return compared with the change in prices. The elderly experience inflation effects different from others only if the makeup of their portfolios differs.

Empirical support for Clark's conclusion is found in the fact that in 1982, coming after years of double-digit inflation, the

percentage of the elderly poor was less than the percentage of the general population which were poor.

These results must be handled cautiously, because Clark depends on the consumer price index to deflate incomes. Clark recognizes that the CPI has an upward bias, though there is considerable controversy as to the magnitude of the upward bias. Not only is the CPI biased upward because it is a Laspeyre index, but it also fails to take into account the fact that the elderly receive a wide range of discounts in many restaurants, motels, movies, pharmacies, etc. In fact, one of the most important discounts is given by the tax collector, with the federal government providing for a double exemption under the personal income tax regulations. In addition, many states, such as Michigan, have a "circuit breaker" which limits the increase in property taxes.

If these discounts in favor of the elderly developed in a short period of time, they would have no effect on *changes* in the relative status of the elderly. However, if the discounts developed gradually—and this seems to be the case—they would bias the year-to-year changes in the relative status of the elderly.

The red thread running through Quinn's presentation is that incentives to retire at age 65 are quite strong. If a worker does not retire at age 65, "social security and employer pensions impose pay cuts. . . . Many older workers respond exactly how you might expect to pay cuts—they stop working and retire." These paycuts are not direct reductions of the paycheck. Rather, the paycuts involve a reduction in the wealth of the worker.

Quinn believes that workers' perceptions with regard to how the social security system operates are reasonably accurate. Workers' behavior suggests that they have calculated the benefit-cost ratio of retiring. By taking the net present value of future income streams, Quinn demonstrates that it

pays to retire. The cost is the loss of social security benefits for one year; the benefits are the increase in future benefits associated with delayed retirement. Put differently, the individual has a choice between two income streams, one that begins immediately to pay social security benefits and another which is delayed for one year. Most frequently, the former stream is preferred to the latter stream, and workers behave rationally by retiring.

Quinn notes that because the actuarial adjustment in benefits is to increase from the current 1 percent to 7 percent, beginning in 1990, for each year of delayed retirement, the disincentives for working will be significantly diminished, and later retirement should occur.

*Berkowitz*

Berkowitz raises in bold relief the difference between chronological age and functional age. Since functional age is more difficult to determine than chronological—even though the former is more important than the latter—there is "statistical" age discrimination when firms assume a close correlation between functional and chronological age. Firms are inclined to use chronological age as a proxy for determining functional age.

But if we discard the use of chronological age—which is definite and objective—what alternative criteria are there? Berkowitz spells out the many difficulties involved in determining functional age in workers' compensation cases and in the disability program under social security. He notes that ". . . nothing in the disability experience provides any aid or comfort to those who allege that we should eliminate compulsory retirement and judge persons by their ability to do the job."

Berkowitz cites experience with workers' compensation in Florida and Michigan. The Michigan experience is par-

ticularly illuminating. In Michigan, many workers who retired from automobile plants simultaneously filed a claim for workers' compensation. Berkowitz makes it clear that no state program has a perfect solution to the workers' compensation problem.

Other problems in determining functional age are illustrated by the operation of the disability program under the social security system. For one thing, the law is written so that a worker is considered either disabled or not disabled. No allowance is made for partial disability. This problem is particularly acute in the case of disability resulting from mental illness. Diagnosis of mental disability is difficult and the worker may often appear able for an extended period of time and yet suffer severe mental problems at other times.

Berkowitz points out that we are uncertain whether the increase in mortality increases morbidity or whether increase in mortality decreases morbidity. Thus at the present time we have no firm empirical evidence regarding the link between mortality and morbidity. Finally, if we were to abolish compulsory retirement, we would need, according to Berkowitz, a better measure of functional limitation. He concludes:

> . . . the argument for abolition of compulsory retirement centers around the notion that chronological age is irrelevant. The sword cuts both ways. Some older people are competent past the age of retirement and some younger people are incompetent prior to the age of retirement. Eliminating compulsory retirement means that we have to get serious about tests of performance for younger workers.

A general comment should be made in conclusion. In much of the discussion and analysis of the social security system during the seminar and at other times, it is recognized that changes in the economy will have a significant impact on

the social security system. However, it is not always recognized (or at least it is poorly recognized) that changes in the social security system's functioning will have an impact on the economy. The social security system is not *akin* to Alfred Marshall's fish market, because income effects loom large. To get some perspective on this problem of mutual causation, let us examine a fairly simple illustration.

What is the impact of an increase in social security benefits on the surplus of the social security system? To answer this question it is necessary to utilize a standard macro model. The surplus (S) is the difference between tax revenues and benefits paid out. Tax revenues are endogenous, equaling the product of the social security tax rate and the level of real national income (tY). Benefits (B) are considered to be exogenous. Thus we have,

$$S = tY - B$$
$$dS/dB = t(dY/dB) - 1$$

If there is significant unemployment, the benefit multiplier, dY/dB, might be as high as two, i.e., a one dollar increase in benefits will be associated with a two dollar increase in national income. This also signifies that the surplus in the social security system will *not* fall by one dollar for every dollar increase in benefits. Rather, assuming a tax rate of 0.10 and using the above equation, the surplus will decrease by eighty cents for a dollar increase in benefits. Thus,

$$dS/dB = .10(2) - 1 = -0.8$$

Some qualifications to this result should be noted. With the economy operating close to full employment, much of the increase in benefits will tend to crowd out other expenditures, or may be spent in price level increases rather than increases in real income. The dY/dB would then be in the neighborhood of zero and dS/dB would be equal to minus

one. At the other extreme it should be noted that it is possible to postulate a reasonable model where dS/dB is positive. By "reasonable" it is meant that the model is stable, and investment is not only a function of the interest rate, but also the income level. By the same reasoning, it may be concluded that a one dollar increase in social security taxes will not increase the surplus by one dollar, since the tax increase will tend to decrease real national income.

There are many other problems which focus upon the mutual causation of social security and the economy. For example, to take a long run problem, does a change in social security taxes change the growth rate of national income, or does it change the *level* of national income. The conclusions will vary depending upon what growth model is considered relevant. These questions, however, are topics for another seminar.

## NOTE

1. Some of these issues are raised by Stuart Street, "A Looming Federal Surplus," *Wall Street Journal,* March 28, 1984, p. 23. Peter Drucker also discusses similar problems with regard to private pension funds in *The Unseen Revolution* (Harper and Row, 1976).

# 2 The Outlook for Social Security in the Wake of the 1983 Amendments

Alicia H. Munnell*
Federal Reserve Bank of Boston

Twice during the last ten years, social security's financial problems have thrust the system onto the front page of newspapers and the cover of weekly magazines. Questions were raised about the program's ability to continue to pay benefits and some observers predicted the system's imminent "bankruptcy." Yet now, only a year after the peak of the whoopla, the social security program is out of the headlines and few question its financial soundness. This seems like an appropriate time to explore what led to the recent financial crises, how the changes enacted in 1983 restored financial balance according to the intermediate assumptions of the system's Board of Trustees, and what are the major areas of uncertainty that necessarily attend any estimates of income and expenditures over a 75-year period.

## *I. The Social Security Program Today*

The social security system consists of three programs financed through separate trust funds. The Old-Age and Survivors Insurance (OASI) program, which pays benefits to retired workers, their dependents and survivors, is the largest program and will dispense $158 billion in benefits to 32 million beneficiaries in 1984 (see Table 1). The Disability Insurance (DI) program, which awards benefits to disabled workers and their dependents, will pay $17 billion to roughly 4 million beneficiaries in 1984. The third program, Hospital

*The author would like to thank Robert M. Ball and Robert J. Myers for valuable comments.

## Table 1
## Benefits, Beneficiaries and Trust Fund Reserves under Old-Age and Survivors Insurance (OASI), Disability Insurance (DI) and Hospital Insurance (HI), Selected Years, 1950-1984

| | Benefits ($ billions) | | | | Beneficiaries[a] (millions) | | | | Trust fund reserves[c] ($ billions) |
|---|---|---|---|---|---|---|---|---|---|
| Year | OASI | DI | HI | Total | OASI | DI | Total | HI[b] | |
| 1950 | 1.0 | -- | -- | 1.0 | 2.9 | -- | 2.9 | -- | 13.7 |
| 1960 | 10.7 | 0.6 | -- | 11.3 | 13.7 | 0.5 | 14.2 | -- | 22.6 |
| 1970 | 28.8 | 3.1 | 5.1 | 37.0 | 22.6 | 2.6 | 25.2 | 20.4 | 41.3 |
| 1980 | 105.1 | 15.5 | 25.1 | 145.6 | 30.4 | 4.7 | 35.1 | 27.6 | 40.1 |
| 1984 | 158.2 | 17.2 | 45.9 | 221.3 | 32.5 | 3.9 | 36.4 | 29.8 | 38.3[d] |

SOURCE: Social Security Administration, *1983 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds* (Government Printing Office, 1983), Table 20, p. 60, Table 22, p. 64, Table 28, p. 75, Table A3, p. 93, Table A4, p. 95; *1983 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund* (GPO, 1982), Table 6, p. 31; and data from Office of the Actuary and Division of Medicare Cost Analysis.

a. Beneficiaries with monthly benefits in current-payment status as of June 30th.

b. Includes both aged and disabled eligible individuals. As of July 1, 1973 hospital insurance protection was extended to disabled persons who had been on the disability rolls for 24 months.

c. Reserves in OASI, DI and HI trust funds at end of period.

d. Estimated by Office of the Actuary, November 16, 1983, using Intermediate Assumption II-B.

Insurance (HI), pays benefits to individuals covered by OASDI and the Railroad Retirement program. Benefit payments from this fund will amount to $46 billion in 1984. Most HI beneficiaries also participate in the voluntary Supplementary Medical Insurance (SMI) program. The following discussion will center primarily on the Old-Age, Survivors, and Disability portion of the program, since this was the area addressed by the National Commission on Social Security Reform and subsequently by Congress in its deliberations on the 1983 Amendments.

The social security system is financed on a pay-as-you-go basis. The 120 million active workers and their employers pay taxes to finance the benefits for the 36 million retired and disabled workers and their dependents and survivors. The idea is not to build up a large reserve from which benefits will be paid, but rather to accumulate sufficient funds to provide a buffer against brief, unanticipated economic fluctuations. At one time it was thought that a reserve equal to one year's benefits would be appropriate, but since 1970 the trust funds have held substantially less than that amount.

Generally, the smallness of trust fund reserves should not be a source of concern in a social insurance program as it would in a private insurance plan. Because private plans cannot be certain of receiving future premiums, they must have adequate funding procedures to meet all prior and current commitments. In contrast, the social security system is a mandatory and permanent program which can rely on the government's taxing power to meet its obligations and can levy taxes on successive generations of workers to pay for retirement, disability, and hospital benefits. Thus, the system has evolved into a compact between generations, each generation depending on the next one to finance promised benefits.

## *II. Reasons for the Financial Problems*

Pay-as-you-go financing, however, makes the financial status of the social security system sensitive to economic and demographic developments. Short-run problems can arise if economic fluctuations adversely affect receipts or outlays and contingency reserves are not adequate to cover the resulting deficits. Long-run financing problems can arise if the size of the beneficiary population increases relative to the working population and the full extent of this shift has not been taken into account in the financing provisions.

In 1983, the social security system faced both of these difficulties. The system was confronted with an immediate short term cash flow problem and a conceptually distinct long-run imbalance between revenues and outlays. The short-run difficulties were almost entirely the result of the unanticipated poor performance of the economy during the 1970s, while the long-run deficits were primarily attributable to projected cost increase associated with the rising ratio of beneficiaries to covered workers after the turn of the century.

*Short-Run Financial Difficulties.* The year 1972 is a useful point from which to trace the origins of the short-run financial cirses, since legislation passed in that year introduced a new social security financing and benefit schedule. For the first time, benefits would be adjusted automatically to keep pace with inflation and the taxable wage base would increase each year to reflect the growth in average wages. In retrospect, the 1972 legislation contained two problems.

The first was a flaw in the indexing procedure which, under assumptions of high future inflation rates, caused the replacement rate (the ratio of benefits to preretirement earnings) to increase over time. The second was a forecasting error which resulted in tax rates that were based on overly op-

timistic economic assumptions. Essentially, the social security Trustees assumed that the economy in the 1970s would operate at roughly the level experienced during the 1960s. A pay-as-you-go system with automatic indexing provisions is very sensitive to economic conditions, particularly to the relationship between the rate of price increase and the rate of wage growth. Tax revenues vary with the growth of wages, while benefits rise with increases in the consumer price index.

In order to understand the sensitivity of the social security system to forecasting errors, consider the effect on a trust fund (equal to one year's outgo) of first overestimating the growth of wages by 2 percentage points.[1] If wages grow by 2 percentage points less than projected, payroll tax revenues will fall 2 percent short of the anticipated level and, where balance had been predicted between revenues and expenditures, a 2 percent shortfall will emerge. This shortfall will be covered by drawing down trust fund reserves and the reserve ratio (the ratio of reserves on hand to annual expenditures) will fall by 2 percentage points from the level originally projected. Even if wages grow in all subsequent years by the rate forecasted, the level of average wages, and hence tax revenues, will continue to be 2 percent lower than projected. The revenue-expenditure gap will never close, and in each subsequent year the 2 percent shortfall will require a transfer from the trust fund, causing the fund ratio to be another 2 percentage points lower than projected. In other words, after four years the one-shot error in forecasting wage growth will cause the trust fund ratio to be 8 percentage points lower than projected.

Should the forecasting error persist, that is, actual wage growth continue to fall below projected growth for several years, then the financial health of the program deteriorates far more rapidly. The social security actuaries have developed a simple rule of thumb that relates the difference

between the actual and projected reserve ratio ($\Delta RR$) in a given year (n) to the forecasting error (ERR) in each year (t):

$$\Delta RR = \sum_{t=1}^{n} (n-(t-1))\, ERR_t$$

According to this rule, a persistent 2 percentage point discrepancy between actual and projected wage growth reduces the reserve ratio by 2 percentage points after one year, 6 points after two years, 12 points after three years and 20 points after four years.

On the other hand, if the error is one of overestimating the inflation rate by 2 percentage points, benefits, which are indexed to inflation, will be 2 percent less than projected. Thus, a one-shot error in forecasting inflation will allow the trust fund to increase each year by roughly 2 percentage points, while a persistent error will allow the trust fund to increase by 2, 6, 12 and 20 percentage points after the first, second, third and fourth year as discussed above.

As you can see, a 2 percent error in forecasting both wage growth and inflation would have largely offsetting effects and virtually no impact on the financial status of the program. In contrast, overestimating wage growth and underestimating inflation each by 2 percent would have a devastating effect on trust fund reserves. Hence, the key relationship is not the level of wage growth and inflation, but the difference between the rate of growth of wages and the rate of increase in prices. This number is generally referred to as the real wage differential.[3]

When the new tax and benefit schedules were established in 1972, it was assumed that the real wage differential would return to the trend rate of growth set in the 1960s (see Table 2). That is, the social security revenue and outlay projections were based on a real wage differential of 2.25 percent per year. Under this assumption, the reserve ratio would have re-

mained fairly steady at 80 percent. Over the next five years, however, that is, from 1973 to 1977, the real wage differential actually averaged -0.3 percent rather than 2.25 percent. Primarily because of this difference, social security began to run annual deficits, which required annual transfers from the trust fund, so that by 1977 the reserve ratio had fallen to less than one-half of the projected 80 percent.[3]

**Table 2**
**Annual Percent Change in Prices and Average Covered Wages, Real Wage Differential and OASDI Reserve Ratio Selected Periods, 1950-1982**

| Year | Annual percent change | | Real wage differential[a] (percent) | OASDI reserve ratio end of period[b] |
|---|---|---|---|---|
| | Covered wages | Consumer prices | | |
| 1950-59 | 5.1 | 2.1 | 3.0 | 180 |
| 1960-64 | 3.4 | 1.3 | 2.1 | 110 |
| 1965-69 | 5.4 | 3.4 | 2.0 | 103 |
| 1970-72 | 5.7 | 4.5 | 1.2 | 80 |
| 1973-77 | 7.4 | 7.7 | -0.3 | 37 |
| 1978-82 | 8.0 | 9.7 | -1.7 | 7[c] |

SOURCE: Social Security Administration, Office of the Actuary, *1983 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds* (GPO, May 1983), Table 10, pp. 37-38 and Table 14, p. 51; and *Social Security Bulletin, Annual Statistical Supplement,* 1982 (GPO 1982), Table 16, p. 21.

a. The difference between the percentage increase in average annual wages and the percentage increase in the annual CPI.

b. The ratio of reserves on hand at the end of one year to total expected expenditures the next year.

c. Excludes reserves borrowed from HI trust fund.

Legislation passed in 1977 dramatically revised the social security financing and benefit provisions in order to restore balance to the program. However, once again the tax schedule was set on the assumption that historical rates of

real wage growth would reappear, that is, that the real wage differential would averaged roughly 2.0 percent from 1978 through 1982. After 1977, however, the rate of price increase exceeded the rate of earnings growth producing persistent negative real wage differentials that averaged -1.7 percent over the 1978-82 period. With inadequate revenues, the system once again began to run annual deficits that resulted in a rapid decline in trust fund reserves, leading to the need for financing changes in 1983.

*Long-Run Problems.* Social security's long-run financing problems began to appear after 1973, when the social security actuaries started to incorporate developing demographic trends into the long-run projections. In the next few years, the projected 75-year deficit worsened steadily as the flaw in the indexing provision and high forecasted inflation rates caused continuing increases in projected replacement rates. The 1977 legislation stabilized replacement rates and thereby substantially reduced the long-run deficit (from 8.2 percent of taxable payrolls to 1.4 percent), but further revisions in demographic assumptions and lowered real wage growth projections after 1977 forced the 75-year deficit to increase gradually to a level of 1.82 percent of taxable payrolls by 1982. Thus, both demographic and economic factors determine the long-run financial status of the social security program.

The demographic factors are important because they determine the number of people who will be receiving benefits as compared to the number of workers who will be paying taxes. In the case of those people already born, the key demographic variable is the mortality rate. Although most of the startling gains in life expectancy during this century are attributable to a substantial reduction in neonatal mortality and diminution of childhood diseases, the life expectancy of older persons has also increased significantly.

The life expectancy for men at age 65 has risen from 11.9 years in 1940, when social security benefits were first paid, to 14.0 in 1980 and is projected to increase to 17.5 years by 2050 under the Trustees' intermediate mortality assumptions (see Table 3). The comparable figures for women are more dramatic, increasing from 13.4 years in 1940 to 18.3 in 1980 and projected to rise to 23.1 in 2050 under the intermediate assumptions. The Trustees' pessimistic projections, which ironically involve less likelihood of early death, assume that by 2050 both men and women will live roughly 3.5 years longer, while the optimistic assume they will die two years sooner.

The size of the future workforce that will be available to support the retired population is determined in large part by the fertility rate (the expected average number of lifetime births for women currently entering childbearing age). Since 1800, the fertility rate has declined persistently, although it deviated temporarily from this trend during the 1945-60 post-World War II baby boom. After 1960, the fertility rate resumed its decline, plummeting from its prevailing level of 3.65 to a low of 1.74 in 1976. Since 1976, the rate has fluctuated between 1.76 and 1.86.

Revised fertility assumptions introduced in 1974 had a major impact on the projected long-run costs of the system. For several years prior to 1974, total fertility was assumed to level off at an ultimate rate of 2.55 under the Trustees' intermediate assumptions. The 1974 Trustees' Report, however, incorporated the much lower fertility experience of the early 1970s and projected under the intermediate assumptions an ultimate fertility rate of 2.1, a rate that produces zero population growth. The intermediate fertility rate assumption was lowered again in the 1976 Trustees' Report, but was then raised back to the 2.1 level in 1977, where it remained through 1982. The most recent social security projec-

tions assume an ultimate fertility rate of 2.0 under the intermediate assumptions; under the more pessimistic scenario, the fertility assumption is 1.6 and for the optimistic 2.3.

**Table 3**
**Fertility, Life Expectancy, and Beneficiaries per Hundred Workers 1940-1980 and Projections for 1990-2050, Selected Years**

| Year | Fertility rate | Life expectancy at age 65 | | Beneficiaries per 100 covered workers |
|---|---|---|---|---|
| | | Male | Female | |
| 1940 | 2.23 | 11.9 | 13.4 | n.a. |
| 1950 | 3.03 | 12.8 | 15.1 | 6 |
| 1960 | 3.61 | 12.9 | 15.9 | 20 |
| 1970 | 2.43 | 13.1 | 17.1 | 27 |
| 1980 | 1.85 | 14.0 | 18.3 | 31 |
| | | Optimistic (Alternative I) | | |
| 1990 | 2.01 | 14.5 | 19.2 | 29 |
| 2010 | 2.30 | 15.0 | 19.9 | 29 |
| 2030 | 2.30 | 15.4 | 20.4 | 40 |
| 2050 | 2.30 | 15.8 | 20.9 | 37 |
| | | Intermediate (Alternative IIB) | | |
| 1990 | 1.90 | 15.1 | 19.9 | 30 |
| 2010 | 2.00 | 16.1 | 21.3 | 33 |
| 2030 | 2.00 | 16.8 | 22.2 | 48 |
| 2050 | 2.00 | 17.5 | 23.1 | 50 |
| | | Pessimistic (Alternative III) | | |
| 1990 | 1.75 | 15.7 | 20.7 | 31 |
| 2010 | 1.60 | 17.6 | 23.0 | 36 |
| 2030 | 1.60 | 19.2 | 24.9 | 58 |
| 2050 | 1.60 | 20.9 | 26.8 | 73 |

SOURCE: Social Security Administration, Office of the Actuary, *1983 Annual Report of the Board of Trustees of the Federal Old-Age and Survivor's Insurance and Disability Trust Funds* (GPO, May 1983), Table 11, p. 40 a. 1 Table 28, pp. 75 and 76.

n.a. = not available.

The seemingly small differences in the fertility and mortality rates that are incorporated into the alternative projections produce dramatic differences in the ratio of beneficiaries to workers when compounded over a long period of time. The intermediate demographic assumptions imply that the number of beneficiaries per hundred workers will increase from 30 in 1984 to 50 by the year 2050; the lower fertility and longer life expectancy incorporated in the pessimistic assumptions produce 73 beneficiaries for each hundred workers, while the higher fertility and greater mortality in the optimistic assumptions imply 37 beneficiaries per hundred workers. With a pay-as-you-go system, an increase in the beneficiary/worker ratio implies an proportional increase in costs as a percentage of payrolls.

Long-run cost increases due to demographic shifts could be offset, however, by greater productivity on the part of the working population. The difficulty has been that the increasingly adverse demographic projections have been accompanied by steadily worsening economic assumptions. The projected real wage differential has been reduced several times from 2.25 percent in 1973 to the present projection of 1.5 percent, reflecting the low levels of productivity growth experienced during the 1970s. With only modest projected increases in productivity, a consensus emerged that current fertility and mortality trends would result in a significant increase in social security costs and that additional funds would be required to finance the program in the twenty-first century.

### *III. The Social Security Amendments of 1983*

In response to the continuing deterioration in both the short- and long-run financial position of the social security system and the inability of Congress to agree upon a solution, President Reagan in December 1981 established a bipartisan National Commission on Social Security Reform.

After more than a year of debate, the Commission finally proposed a delicately balanced package of tax increases, benefit cuts, and extension of coverage, which was projected to produce $166 billion between 1983 and 1990. These changes also eliminated two-thirds of the long-run deficit that was projected under the intermediate assumptions to arise after the turn of the century as the baby boom starts to retire (see Table 4). In the process of adopting the Commission's recommendations, Congress also introduced an extension of the normal retirement age to close the remaining gap between outlays and expenditures over the next 75 years. Several other provisions were also adopted in an attempt to stabilize the financing of the system and prevent repeated short term crises.

*Short-Run Impact: 1983-1989.* The two largest producers of additional short-term revenues, each contributing nearly one-quarter of the total increase over the 1983-1989 period, were the proposals to delay for six months the automatic cost-of-living adjustment on retirement and disability benefits[4] and the provision to accelerate the OASDI payroll tax rate increases that were already scheduled to take effect in 1985 and 1990.[5] Another major contributor to the system's finances, accounting for roughly 15 percent of the total short-run revenues produced by the legislation, was the proposal to tax 50 percent of social security benefits—the half that is generally associated with the employer's share of the payroll tax—for higher income recipients and to direct the new receipts to the OASDI trust funds.[6]

The legislation produced another 10 percent of the short-run revenue increases by increasing the tax rate for self-employed people. While in the past the self-employed have paid taxes equal to about 75 percent of the combined employee and employer contributions for OASDI and 50 percent for HI, under the new legislation they will pay 100 percent of the combined employee-employer rate. In order to

allow for the portion of the self-employed tax that corresponds to the employer's share, the self-employed will be allowed to deduct one-half their payroll tax liability for personal income tax purposes.[7]

**Table 4**
**Projected Cost Impact on the OASDI Program of the 1983 Social Security Amendments**

| Change | Cost impact | |
|---|---|---|
| | 1983-1989 ($ billions) | Long-term (% of payroll) |
| Benefit reductions/tax increases | | |
| 1. Delay COLA from July to January | 39.4 | 0.30 |
| 2. Accelerate scheduled rate increases | 39.4 | 0.03 |
| 3. Tax 50% of OASDI benefits for higher-income people | 26.6 | 0.61 |
| 4. Increase tax rate for self-employed | 18.5 | 0.19 |
| Coverage extension | | |
| 5. Cover all nonprofit employees and *new* federal workers | 21.8 | 0.38 |
| 6. Ban withdrawal of state/local employers | 3.2 | 0.06 |
| Other | | |
| 7. Payment from general revenues for military service credits and uncashed checks | 17.7 | 0.01 |
| 8. Benefit changes[a] | -0.4 | -0.13 |
| Total | 166.2 | +1.38[b] |
| Extension of retirement age | -- | 0.71 |
| Total | 166.2 | 2.09 |

SOURCE: Social Security Administration, Office of the Actuary, *1983 Annual Report of the Board of Trustees of the Federal Old-Age and Survivor's Insurance and Disability Trust Funds* (GPO, May 1983); and unpublished data.

a. Benefit changes include the following: Eliminating windfall benefits for persons with pensions from noncovered employment; continuing benefits for remarried disabled widow(er)s and for divorced widow(er)s; indexing deferred widow(er)'s benefits based on the lesser of wages and prices; permitting divorced aged spouse to receive benefits when husband is eligible; and increasing benefit rate for disabled widow(er)s aged 50-59 to 71.5 percent of primary benefit. Also included in this figure, however, is $1 billion increase in revenue that results from accelerating state and local tax collections.

b. Total effect of reforms on trust funds as percent of payroll is not the sum of individual percentages. Rather the total reflects the interaction of individual reforms upon one another, including the following additional reforms: taxation of certain salary plans, altering of the earnings test and adjustment of self-employment income.

Roughly 15 percent of the total increase in short term revenues was gained from extending coverage to new federal employees and the uncovered workers in the nonprofit sector[8] and from banning future withdrawals of state and local employers.[9] The remaining 10 percent of short term revenues came from the proposal to make a payment from general revenues to the OASDI trust funds to compensate the system for gratuitous military service wage credits granted before 1983 and to provide reimbursement for social security checks issues but never redeemed.[10]

*The Long Run and Extension of the Retirement Age.* In addition to raising a projected $166 billion over the period 1983-1989, the National Commission's proposals enacted in the 1983 Amendments eliminated two-thirds of the 75-year deficit.[11] Although the Commission members who had voted in favor of the consensus package had agreed that the long range deficit should be reduced to approximately zero, they were unable to agree on a specific proposal to accomplish this. Members selected by the Democratic leadership supported an increase in contribution rates in 2010 (about 0.5 percent of earnings for the employee and a like amount for the employer), while the remaining designees favored a gradual increase in the retirement age.

Congress opted for extending the retirement age as a means of eliminating the long-run deficit. As a result of the 1983 Amendments, the retirement age will rise to 66 by 2009, then to 67 by 2027.[12] People can still elect early retirement at 62, but benefits paid to early retirees will be reduced by 25 percent in 2009 and by 30 percent in 2027. Early retirees are currently penalized 20 percent. Raising the retirement age reduces long-run costs by 0.71 percent of taxable payrolls, thereby creating a small surplus in the OASDI program over the 75-year projection period under the intermediate assumptions.

*Revenue Stabilizers.* The 1983 Amendments also contained three provisions designed to improve the system's ability to continue paying benefits on a timely basis even during adverse economic conditions. These include a speed-up in monthly transfers from the Treasury, an extension of interfund borrowing, and a revised indexing procedure.

Normalizing Transfers: To protect against potential cash flow problems created by the uneven way in which benefits are paid and taxes are transferred to social security, Congress introduced a revised procedure for crediting taxes to the trust funds. Under the previous procedures benefits were paid on the third of the month, creating the need for high balances in the OASDI trust fund during the first week. Taxes, however, were transferred to the trust funds daily, based on Treasury estimates of amounts collected. Under the revised procedure, the Treasury is authorized to estimate amounts to be collected in a given month and transfer such sums to the trust funds on the first or second day of the month. This technical procedure will help ensure that the cash is available at the time benefit payments are made.

Extending Interfund Borrowing: Amendments to the Omnibus Reconciliation Act, passed on December 29, 1981, authorized borrowing through December 1982 among the OASI, DI, and HI trust funds to finance deficits up to June 1983. The OASI fund borrowed $17.5 billion from the other funds ($5.1 billion from DI and $12.4 billion from HI) in November and December 1982 in order to ensure benefit payments through June 1983. The 1983 Social Security Amendments extended the authority for interfund borrowing for calendar years 1983-1987 with the provision that all principal and interest be paid by the end of 1989.[13]

Revising the COLA: As noted above, the short term financing problem in social security was entirely the result of the unanticipated poor performance of the economy during

the past few years. Tax rates were set on the assumption that taxable wages would grow at the rate of increase in prices plus an additional amount for productivity growth. After 1977, however, the traditional relationship between price and wages was reversed and price increases exceeded wage growth. With prices rising faster than wages, benefits, which are linked to the consumer price index, increased faster than payroll tax revenues, which are dependent on the growth in wages. As a result, trust fund balances were rapidly depleted.

In an attempt to avoid this problem in the future, Congress established that if OASDI reserves ever drop below 15 percent (20 percent beginning in 1989) of the following year's planned outlays, the automatic cost-of-living adjustment would be based on the lower of the CPI increase or the increase in average wages until the trigger ratio is restored. Subsequently, when the reserves reach 32 percent of outlays, benefits would be adjusted to make up for any payments that were less than those called for by the price adjustment. The payback would occur only so long as reserves met the 32 percent standard. This change will help avoid a repetition of the recent short-run financial crisis.

### *IV. Some Uncertainties*

With any luck in terms of the performance of the economy and demographic developments, the financial package enacted in the 1983 Amendments should ensure the solvency of the retirement and disability programs for the next 75 years. The need for luck, however, highlights the fact that some uncertainties surround both the short-run and long-run outlook for the social security system. These uncertainties have little to do with the intrinsic health of the program, but rather with the fact that tax rates are set on the basis of assumed economic and demographic developments and the revenues produced by these tax rates will provide inadequate or excessive if the actual performance of the economy differs

from that projected. In order to assess the reliability of the projections, it is useful to identify some of the major uncertainties and estimate the magnitude of their potential impact on the financial status of the program. This exercise should provide some comfort to those who continue to worry about the solvency of the social security program, since the analysis reveals that potential deviations from the assumed performance would require relatively minor increases in OASDI tax rates.

*1984-1989: Economic Performance.* For the period from now through 1989, the 1983 social security package was constructed so that the system would be adequately financed not only under the Trustees' intermediate economic assumptions, but also under the more pessimistic scenario. Most of the additional revenues under the pessimistic assumptions are attributable to the revised indexing procedure, whereby benefits are adjusted by the lesser of increases in prices or wages when trust fund reserves are low. The problem is that during the 1970s the economy performed even more poorly than the social security Trustees' pessimistic assumptions and, therefore, a legitimate question can be raised about whether the revenue and outlay projections for the rest of the 1980s are realistic.

In fact, no mechanism exists to answer that question; instead, the only basis for assessment is to compare the social security assumptions with those of independent forecasters. As of April 1983, the month the 1983 Amendments were signed into law, the projections of the private forecasters clustered around the social security Trustees' intermediate and pessimistic assumptions and updated forecasts from Data Resources, Inc. and Chase Econometrics show the private projections bracketing these assumptions. Thus, the social security forecasts appear to be based on reasonable assumptions about future economic trends (see Table 5).

**Table 5**
**Comparison of Projections, as of Fourth Quarter 1983, of the Real Wage Differential[a] by Social Security and Private Forecasters, 1984-1989**

| | Social security | | Private forecasters[b] | |
|---|---|---|---|---|
| | Intermediate | Pessimistic | Chase | DRI |
| 1984 | 1.1 | -1.8 | 0.4 | -0.6 |
| 1985 | 0.2 | -0.3 | 0.0 | -0.2 |
| 1986 | 0.9 | 0.1 | 0.2 | -0.1 |
| 1987 | 1.2 | 0.7 | 1.9 | 0.5 |
| 1988 | 1.3 | 0.9 | 1.4 | 0.4 |
| 1989 | 1.4 | 1.1 | 1.9 | 0.7 |

SOURCE: Social Security Administration, Office of the Actuary, "Possible 'Automatic Operations' in 1984-85," memorandum (November 16, 1983), Table 1 and unpublished data; and Data Resources, Inc. and Chase Econometrics/Interactive Data Corp., projections based on data available before December 30, 1983.

a. The difference between the percentage increase in average annual wages in covered employment and the percentage increase in the annual CPI for all wage and salaried workers.

b. Since the private forecasters do not project wages in covered employment, wage growth is calculated on the basis of wages and salaries per worker in the private sector. For Chase and DRI standard long-term forecasts were used, moderate growth and tend, respectively.

Moreover, the really difficult period for social security financing is only the four years 1984 through 1987, since revenues will jump markedly in 1988, when a scheduled OASDI tax rate increase of 0.36 percent each for the employee and employer takes effect. (Another 0.14 percent increase becomes effective in 1990.) Little likelihood of an economic downturn exists for 1984 and while a serious recession in 1985 could cause some problems, such a development is very unlikely. By 1986, even with a repetition of the disasterous conditions of 1979 and 1980, the OASI and DI trust funds should have adequate reserves to continue payments through 1988 when the new revenues will be available. In addition to their own reserves, the OASI and DI

funds can borrow from the HI trust fund until 1988. The combination of borrowing capability, substantial reserves, and a reasonably health economic outlook makes the possibility of another short term social security financing crisis very unlikely.[14]

*1990-2020 Accumulation of Trust Fund Reserves.* In marked contrast to the 1980s, the outlook for OASDI financing for the period 1990-2020 has always been favorable. The primary reason is demographic. The low fertility rates during the late 1920s and the 1930s will be reflected in a considerable reduction in the rate of increase in the population over age 65 during the 1990s and the first decade of the twenty-first century. While the average annual increase in the number of persons over 65 will be about 600,000 during the 1980s, the net increase will drop to around 400,000 a year under the intermediate assumptions between 1990 and 2010 in spite of the improvement in the mortality rate. At the same time, the baby boom generation born after World War II will continue to swell the labor force. As a result, the ratio of beneficiaries to workers, which has increased continually since 1940, is estimated to remain stable for the next 20 to 30 years at its current level of roughly 30 beneficiaries per hundred workers. With a stable ratio of beneficiaries to workers, even modest productivity gains will reduce the cost of social security as a percent of payroll.

At the same time costs are projected to decline, revenues are scheduled to increase since a combined employee-employer payroll tax increase of 1.0 percent is slated to take effect by 1990. With lower costs and higher revenues, the retirement and disability program is projected to run substantial annual surpluses and the ratio of assets to outlays is estimated to increase from 38 percent in 1990 to 538 percent by 2020 under the intermediate assumptions. These accumulated reserves are then scheduled to be drawn down to cover annual deficits in the years between 2020 and 2057.

During the period 1990-2020, almost no uncertainties exist about the adequacy of social security financing. Even under the pessimistic mortality and economic assumptions the system will run surpluses until 2013 and have positive trust fund balances until 2020. Should the economy perform more poorly than the pessimistic assumptions, particularly should the real wage differential fall below 1 percent, revenues will still be adequate to cover benefit commitments, although not sufficient to produce substantial surpluses.

The uncertainty surrounding social security financing during the period 1990-2020 arises then not from possible adverse economic or demographic developments, but rather from the possibility of congressional action. The major question is whether Congress will allow a substantial accumulation of assets in the OASDI trust funds or whether it will divert scheduled payroll taxes to finance other programs or simply not allow the 1990 rate increase to take effect. If reserves are not accumulated during the period, then tax rates will have to be raised after 2020 in order to finance the annual deficits on a current cost basis. It is important to note, however, that the rate hike that would be required if reserves are not accumulated is fairly modest—roughly 1 percent each for the employee and employer under the intermediate assumptions (see Table 6).

*The Role of the Hospital Insurance Program.* A major obstacle to the buildup of assets in the OASDI trust fund may be the financial requirements of the Hospital Insurance program. Although the HI trust fund was a source of strength during the recent financial crisis, it faces serious financing problems in the near future. Unless further policy changes are implemented, the Congressional Budget Office projects the depletion of the HI fund by the end of the decade. The deficits would be small initially, but they would increase each year so that by 1995 the annual deficit would

be $60 billion and the cumulative deficits would total over $200 billion.

**Table 6**
**Estimated Average Cost Rate, Average Total Income Rate and Actuarial Balance for OASDI, and HI Trust Funds, Under Three Assumptions, Selected Periods, 1983-2057**

| Period | Percent of projected taxable payroll | | |
|---|---|---|---|
| | Average cost rate | Average total income rate | Actuarial balance |
| | | (OASDI) | |
| 1983-2057 | | | |
| Pessimistic | 16.56 | 13.04 | - 3.51 |
| Intermediate | 12.84 | 12.87 | + 0.02 |
| Optimistic | 9.81 | 12.73 | + 2.92 |
| 1983-2007 | | | |
| Pessimistic | 11.44 | 12.53 | + 1.08 |
| Intermediate | 10.66 | 12.50 | + 1.83 |
| Optimistic | 9.22 | 12.45 | + 3.23 |
| 2008-2057 | | | |
| Pessimistic | 15.50 | 13.08 | - 2.42 |
| Intermediate | 12.64 | 12.95 | + 0.32 |
| Optimistic | 9.80 | 12.83 | + 3.03 |
| 2033-2057 | | | |
| Pessimistic | 22.73 | 13.52 | - 9.21 |
| Intermediate | 15.23 | 13.15 | - 2.08 |
| Optimistic | 10.42 | 12.91 | + 2.49 |
| | | (HI) | |
| 1983-2007 | | | |
| Pessimistic | 5.38 | 2.87 | - 2.51 |
| Intermediate | 4.11 | 2.87 | - 1.24 |
| Optimistic | 3.21 | 2.87 | - 0.34 |

SOURCE: Social Security Administration, Office of the Actuary, *1983 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds* (GPO, May 1983), Table 31, pp. 79-80; and *1983 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund,* Table 11, p. 47.

Projected deficits could be substantially lower if cost-containment efforts are successful. For example, the Secretary of Health and Human Services has the power to set hospital reimbursement rates after 1985. If the Secretary decided to limit the increase in payments per admission to only 1 percentage point mre than the rate of increase of hospital input prices, the depletion date for the HI trust fund would be postponed until 1992 and the cumulative deficit would amount to roughly $85 billion by 1995.

Even with successful cost-containment efforts, therefore, some residual deficits appear almost inescapable. Hence, it is quite possible that Congress may decide to cover some of HI deficit by reallocating to the Hospital Insurance trust fund a portion of the payroll tax revenues now scheduled to go into the retirement and disability programs after 1990.

*2020-2057: Demographic and Economic Assumptions.* The financial solvency of the social security program after the year 2020 hinges crucially on demographic developments being in line with the social security Trustees' intermediate projections and to a somewhat lesser extent on productivity growth producing an adequate real wage differential.

Demographic Projections: The intermediate assumption of the social security Trustees, that the fertility rate will increase from its current level of 1.8 to an ultimate value of 2.0 by 2005, is slightly higher than the most recent projections by the Census Bureau. Until October 1982, the Census Bureau's "middle" series had assumed a long-run fertility rate of 2.1, the rate that produces zero population growth over the long-run. Now the Census assumes that fertility rates will remain fairly steady, increasing slightly from 1.80 to 1.96 in 2000 and then decreasing gradually to 1.9 births per woman in 2050. Supporting the somewhat higher social security projections, however, is the fact that data on expected births indicate that young women continue to expect to have more

than two children over their lifetimes. Thus, the social security intermediate projection of a long-run fertility rate of 2.0 appears more likely than either the optimistic or pessimistic projections of 2.3 or 1.6, respectively. That is, it would be very difficult to make a convincing case for a fertility rate assumption substantially different from that incorporated in the Trustees' intermediate projections.[15]

Economic Assumptions: While the central projections seem to be based on realistic demographic assumptions, they may incorporate a somewhat optimistic assumption about the rate of productivity growth. The intermediate projections of the retirement and disability funds are based on an assumed long-run real wage differential of 1.5 percent. Although this number is considerably below the 3.0 percent differential experienced in the 1950s and the 2.1 percent during the 1960s, it exceeds the average of 1.2 percent over the last 30 years. In addition, the real wage differential of 1.5 percent implies long-run productivity gains of 2.1 percent, which is somewhat higher than most estimates.[16]

The interesting fact, however, is that the long-run costs of the program are not all that sensitive to the real wage differential. For example, if the long-run real wage differential were 1 percent instead of 1.5 percent, the cost of the system in the 2020-2057 period would be roughly 1.0 percent of taxable payrolls higher and the cost of the program over the entire 75-year forecasting horizon would be 0.8 percent higher. This would mean that instead of being in long-run balance, the system would have a 75-year deficit of 0.8 percent of taxable payrolls. To put this deficit in perspective, it must be compared with the total cost of the program, which would be roughly 13.7 percent of taxable payrolls. Of this total cost, 12.9 percent would be covered by scheduled payroll taxes, while 0.8 percent would be unfunded. In other words, the deficit produced by a real wage differential of 1 percent rather than 1.5 percent would amount to only 6 percent of

program expenditures over the 75 years. Under the traditional rule of thumb adopted by the social security Trustees, the system is considered to be in close actuarial balance if revenues are equal to plus or minus 5 percent of planned outlays. Thus, even a substantial deviation from the assumed real wage growth will require only a relatively modest increase in the payroll tax rate to restore financial balance to the retirement and disability programs.

*After 2057.* To even discuss the outlook for social security after the year 2057 verges on the ridiculous. It is comparable to having concluded in 1909 that a program was adequately financed through 1984 and then worrying about what was going to happen in 1985. Nevertheless, for the sake of completeness, it is probably useful to mention two factors that pertain to the end of the forecast period. The first is that the reserves that are scheduled to accumulate during the period 1990-2020 will be exhausted by 2057. Hence, the OASDI payroll tax rate will have to be raised under the intermediate assumptions by roughly 1 percentage point each for employees and employers in the middle of the next century to cover the costs of the program.

The second factor is that because of the mechanics of calculating the long-run financial status of the program, future estimates will begin to show small deficits even if the intermediate assumptions turn out to be completely accurate. This will occur because the 75-year projection is a rolling average of individual years, and as time progresses the near-term years of projected surpluses will be replaced by the years of deficit after 2057, the end of the current projection horizon. The magnitude of this phenomenon is very small, however, and it will probably be dwarfed by other developments.

## *V. Conclusion*

Congress passed major legislation in 1983 which raised taxes, reduced benefits, and broadened coverage in order to provide financial balance to the social security program over the next 75 years. The preceeding analysis indicates that the 1983 Amendments have done the job. In the critical period between now and the 1988 rate hike, the system appears adequately financed even under the pessimistic set of economic assumptions. Moreover, the economic forecasts used by social security are consistent with those prepared by private firms.

Between 1988 and 2020, there is little question that revenues will be sufficient to cover promised benefits. Indeed, the major question is how large the trust funds will become as the system experiences successive annual surpluses. This depends somewhat on economic and demographic developments, but the determining factor will be Congress' willingness to deviate from pay-as-you-go financing and allow an accumulation of reserves. If funds are needed to finance the Hospital Insurance program, a decision might be made to divert some of the scheduled payroll taxes to finance HI. Even in th event of such a diversion, however, the system appears to have plenty of money for the next 40 years.

After 2020, the program starts to run annual deficits and a possibility exists that some additional financing might be required if either adequate reserves are not allowed to accumulate during the 1990-2020 period or the real wage differential turns out to be lower than projected. Even if either of these events should occur, however, the size of the tax increase that would be required to compensate appears relatively modest—perhaps 1 percent each for the employee and employer. Hence, the financing of the retirement and disability programs appears well under control for the foreseeable future.

## NOTES

1. This discussion of the effect of forecasting errors is based on a presentation by Lawrence H. Thompson, "Social Security Financing: Recent Problems and Current Uncertainties," prepared for annual meeting of Industrial Relations Research Association, San Francisco, December 30, 1983 and on Dwight K. Bartlett and Joseph A. Applebaum, "Economic Forecasting: Effect of Errors on OASDI Fund Ratios," *Social Security Bulletin* 45 (1) (January 1982), pp. 9-14.

2. Because of the time lag in adjusting benefits, the level of inflation does have a small impact on the cost of the system even with a constant real wage differential. For example, the 75-year deficit would range from -0.33 percent of taxable payrolls to +0.36 percent as the underlying inflation rate ranged from 2 percent to 6 percent even with a constant real wage differential of 1.5 percent.

3. Other factors contributing to social security's financial problems were a higher-than-expected unemployment rate which further reduced revenues and an unprecedented increase in disability claims.

4. Since 1975 cost-of-living adjustments were made annually in June (payable in July) to reflect changes in the consumer price index (CPI), measured by the first quarter of the current year over the first quarter of the previous year. The legislation shifted the 1983 COLA from June to December and provided that all subsequent increases be awarded in December (payable in January), based on the elevel of the CPI in the third quarter of that year over the level in the third quarter of the previous year.

5. The 1983 legislation moved the scheduled 1985 OASDI rate increase to 1984 and part of the scheduled 1990 increase to 1988. As a result, the 1984 OASDI tax is 5.7 percent each for employers and employees and is slated to rise to 6.06 percent in 1988 and 6.2 percent in 1990. With a HI tax of 1.45 percent beginning in 1986, the total social security payroll tax will rise from its present level of 7.0 percent to 7.51 percent in 1988 and 7.65 percent in 1990. In order to postpone the impact of the 1984 increase until 1985, however, the legislation provided employees a credit of 0.3 percent of taxable wages so that net OASDI tax remains unchanged at 5.4 percent for 1984.

6. One-half of social security benefits are subject to taxation if 50 percent of the benefits, combined with other income plus certain nontaxable

income, exceed $32,000 in the case of a married couple and $25,000 for single individuals.

7. The deduction becomes effective in 1990. In the interim, the tax increase will be accompanied by a tax credit of 2.7 percent of taxable earnings in 1984, 2.3 percent in 1985 and 2 percent in 1986 through 1989.

8. Before the 1983 Amendments, the social security system covered 90 percent of jobs in paid employment. The 10 percent of workers who were not covered by social security included most federal civilian workers (2.4 out of 2.7 million), about 30 percent of state and local employees (approximately 3 million), and 15 to 20 percent of employees of nonprofit organizations (up to 1 million). The 1983 Amendments extended coverage to all newly hired federal civilian employees and to uncovered workers in nonprofit institutions. For these groups, this provision not only eliminates the windfall component of benefits that arises when formerly uncovered workers have minimum coverage and profit from social security's progressive benefit formula, but also improves the protection for many workers, particularly in the area of disability and survivors insurance. The windfall component for those groups who continue to remain uncovered is partially eliminated in the legislation by modifying the benefit formula for persons with pensions from noncovered employment.

9. Since 1950 social security coverage for employees of the states and localities has been available on a voluntary basis through agreements between the political entity and the Secretary of Health and Human Services. States could voluntarily terminate coverage with two years' advanced notice. Until the mid-1970s the number of employees leaving the system was always exceeded by the number of newly covered employees—in most years by 50,000 or more. After 1975, however, the number of workers for whom coverage was terminated exceeded the number of newly covered employees. These terminations not only reduced the payroll tax base, but also caused some employees to lose protection and created resentment on the part of other workers who were covered on a mandatory basis. To alleviate these problems, the 1983 Amendments prohibited state and local governments from terminating coverage after April 14, 1983.

10. The military have been covered under social security since 1957, but military personnel pay contributions only on the cash paid to them. The government pays the costs of the benefit credits made on the basis of nonpecuniary allowances for room and board. However, the government

did not make current payments for these credits, but rather transferred the money to the social security trust funds only when the benefits were paid. Moreover, prior to 1957, free credits of $160 per month were granted for service in the armed forces. These credits, too, were paid only after the benefits were awarded, and the cost was amortized over a long period of time. The 1983 Amendments provided for the OASDI trust funds to receive a lump-sum payment from the Treasury to make up for the back amounts owed by the government. In the future the OASDI trust funds will be reimbursed on a current basis for the employee and employer taxes on the benefit credits made in lieu of allowances for room and board.

11. The relative importance of the specific proposals on long-run costs and revenues, however, differed somewhat from their impact on the system in the short run. The change that had the greatest long range effect was the proposal to tax one-half of social security benefits. While the income limits initially restrict the taxation to less than 10 percent of the population, eventually about half of all beneficiaries will be affected. The proposal to bring employees of nonprofit institutions and newly hired federal workers under social security also has a favorable long range impact. The saving arises because an estimated 73 percent of those involved would have qualified for sizable social security benefits as a result of other employment even without the extension of coverage. Also, federal employees tend to have wages that are higher than average and, therefore, are entitled to less heavily weighted benefits.

12. Specifically, the age for full benefits will be increased to 66 by two months a year for six years so that provision would be fully effective beginning with those attaining age 62 in 2005 (66 in 2009); maintained at age 66 for people reaching are 62 in 2006-2016; increased by two months a year for people reaching age 62 in 2017-2022; and maintained at age 67 for people reaching 62 after 2022.

13. The 1983 legislation puts restrictions on interfund borrowing, particularly: 1) interest must be paid monthly on any outstanding loans; 2) no fund can borrow from the other in any month in which the other's trust fund ratio is under 10 percent; 3) in 1983-1987, each fund must repay loans whenever its fund ratio at yearend exceeds 15 percent; and 4) in 1988-1989, the loan balance outstanding at the end of 1987 must be repaid in 24 equal monthly payments.

14. Some speculation has emerged that trust fund reserves may fall slightly below 15 percent in 1984 or 1985, triggering the revised indexing

procedure. Even if this should occur, it would probably have no effect on benefits, since wages will almost certainly rise faster than prices. Hence, no changes in benefits or taxes are likely in the short run.

15. On the other hand, the enormous fluctuation experienced in fertility trends would argue against being too complacent about any projection of future fertility rates. The hazards of forecasting population growth can be easily demonstrated by historical experience. In 1943 it was authoritatively estimated that the 1980 United States population would be perhaps as low as 146 million, or perhaps be as high as 179 million; in 1958 the corresponding low and high forecasts of the 1975 population were 231 million and 273 million; the event—a population of 228 million—confounded both these projections. See Warren S. Thompson and P.K. Whelpten, "Estimates of the Future Population of the United States, 1940 to 2000," paper presented for the National Resources Planning Board (1943) and U.S. Bureau of the Census, *Current Population Reports,* "Illustrative Projections of the Population of the United States, by Age and Sex, 1960 to 1980," series P-25, No. 187 (GPO, 1958).

16. An ultimate rate of productivity gains of 2.1 percent per year was derived from the projected real-wage differential of 1.5 percent per year by increasing it by 0.3 percent for the relative annual growth of fringe benefits; 0.2 percent for the average number of hours worked per week; and 0.1 percent for the average number of weeks worked per year.

# 3

# The Economics of Aging*
## Doomsday or Shangrila?

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The well-known social commentator Gunnar Myrdal (1963), writing in the early Sixties, had this to say about the elderly in America:

> The treatment of old people in America, many of whom have a hard life behind them, is remarkable. . . [This is illustrated by] the terrifying extent to which old people are left in poverty and destitution. . . . It cannot possibly be the considered opinion of the majority of Americans that so many of those who in America are often called "senior citizens" should be left in misery, squalor, and often forbidding loneliness, unattended though they are in need of care. The situation is overripe for a radical reform of the old age security system.

Contrast Myrdal's comment with a recent story that appeared in the *Washington Post:*

> A new Census Bureau study shows that the elderly in this country are much better off than previously believed and, in fact, are better off than the average American. . . .

The article by Spencer Rich (1983) in the *Washington Post* goes on to describe how the per capita, after-tax income of

*This presentation was based on an article by James Schulz published in Charles M. Gaitz, et al., *Aging 2000: Our Health Care Destiny,* Vol. II (New York: Springer-Verlag, 1985), and is reprinted with permission.

the elderly was $6,300 in 1980 versus $5,964 for the population as a whole.

Looking at these new Census Bureau findings and a number of other recent studies, one can begin to see the outlines of a very fundamental change with regard to the economic status of the elderly. From a statistical point of view, *the elderly in this country are beginning to look a lot like the rest of the population:* some very rich, lots with adequate income, lots more with very modest incomes (often near poverty), and a significant minority still destitute. This is very different from the past when most were destitute.

The past three decades have been marked by steady improvements in the economic situation of the elderly. Pension coverage has spread rapidly, real benefit levels have increased, and health protection is generally financially obtainable. Moreover, the general economic prosperity of the post-World War II period (that is, up until recently) has served to facilitate among those middle-aged and older the accumulation of an impressive stock of economic wealth in the form of housing, durables, and pension accurals.

But just when we thought the problem of providing adequate income in retirement for most elderly was solved, a whole new set of uncertainties arose:

1. *Life-Threatening Economic Instability.* I say "life-threatening" as a way of dramatizing the differences in the character of the macro problems that suddenly appeared in the Seventies. Inflation and unemployment unexpectedly became both more severe and of longer duration—to the extent that the resulting economic deprivation, mental stress, inadequate medical care, and malnutrition threatened life itself for a much broader spectrum of the American population.

As families attempted to cope with the harsh realities of this economic instability, few realized (or had the time or inclination to think about) the simultaneous erosion of the base for their retirement security that was also occurring. Wealth in housing and consumer durables deteriorated. And a private pension system, designed to reward long-term workers at the expense of those who lose or change jobs, proceeded to wipe out billions of dollars in potential pension accruals as millions of workers changed jobs without vested pension rights. And probably what is more serious is the gradual, invisible erosion of pension benefit rights that will take place over the coming years. The forced mobility of the Seventies and Eighties also produced a gigantic pool of pension benefit accruals for those job changers fortunate enough to be eligible for vesting. But since these accruals are not indexed, they are highly vulnerable to monetary depreciation from the inflation that can be expected in the years ahead. Few people today (even policymakers) are sensitive to this problem. Few see that this is the great retirement "legacy" of the Carter-Reagan years: lost pension benefits. Instead, most attention has been focused on social security, the next uncertainty to be discussed.

2. *Chaotic Social Security Financing.* It is almost amusing to look back over the social security events of the recent past: a nation bumbling along from one social security financial crisis to another, like a little mom and pop grocery store always on the brink of bankruptcy. What we have witnessed is one of the great social programs of the richest country in the world seemingly almost brought to its knees by the economic instability discussed above. The result: cries of anguish, much handwringing, and finally a financial "fix" until the next crisis arises.

To me, a pension expert who has given years of attention to pension financing issues, events seem more the result of

political maneuvering than the product of fundamental economic problems. But to others, the problems (both economic and political) seem very real. And for the first time since it was established, support for social security seems in doubt as confidence deteriorates among policymakers and program participants. What was once unthinkable—major cutbacks—have become a reality: benefit cuts, benefit taxation, and a scheduled rise in the retirement age.

For purposes of this paper, then, it only remains to ask the question: if social security is in a state of change, what can be counted on? Obviously this new uncertainty makes it difficult to plan for the future.

3. *The Early Retirement Bomb.* For many years now analysts have pointed with great anxiety to the dramatic declines in labor force participation among the older population. For reasons we summarize below, many have referred to this social phenomenon as a ticking bomb that might explode in the nation's face at some future time.

It is important to distinguish the growing interest and ability to retire in general from the phenomenon of exercising the retirement option at *increasingly early* ages. The "right to retire" is not what is at issue. Rather the issue is the age of election and who will pay the costs. For example, actuaries point out that pension costs increase by about 50 percent once the normal age of retirement is reduced from age 65 to age 60.

Yet, throughout the country, powerful forces are at work to remove people from the labor force before age 65. Increasing numbers of workers are retiring under the social security early retirement option. Federal employees can retire on full benefits at age 55 with 30 years of service; in fact, the President's Commission on Pension Policy reported that 59 percent of retiring male civil service servants (fiscal

1978) were age 60 or younger. Most state and local government employee plans also have very liberal retirement provisions. Early retirement is usually possible after 20 to 30 years of service—often as early as age 50 or 55.

Less well known are the retirement options provided under private pension plans. The generous provisions of the big plans—for example, in the auto industry—are well known. Few data are published, however, on the hundreds of thousands of plans in other industries. One recent study of pension plans by the U.S. Bureau of Labor Statistics (1980), has found that more than half of covered workers were eligible to receive *normal* retirement benefits *before* age 65. And almost a third were eligible for normal benefits at age 60 or earlier!

Another study of defined benefit plans covering about 23 million workers in 1974 (Schulz, et al., 1980) shows that 70 percent of these workers were eligible for early retirement benefits at age 60 (provided service requirements, if any, were met). Over half could retire as early as age 55, and 15 percent were in plans with even earlier eligibility ages (or no age requirement at all).

But these numbers do not tell the whole story. More than 90 percent of all workers covered by private pensions are in plans having "early retirement" options. When a worker retires early, that is before the "normal" retirement age, the benefit is usually reduced. A large number of employers, however, encourage their employees to retire early by absorbing some of the costs of paying pensions over a longer period of time. Thus, while some plans reduce benefits by the full actuarial discount, many plans, in effect, give actuarial bonuses to workers who retire early.

The study of defined benefit plans in 1974 indicated that powerful economic incentives are provided in many plans.

For example, there were about seven million workers in 1974 covered by plans permitting their retirement at age 60 with less than a full actuarial reduction in benefits.

Thus, we see that social security is not the sole force pushing workers into retirement. Certainly social security income, when it becomes available, encourages workers to retire. But for many workers it is military, federal, state/local, or private plans that make it possible to retire at increasingly early ages.

Pensions have become an important tool of personnel management, especially in dealing with excess labor situations. As Juanita Kreps (1977) pointed out a few years ago, "retirement, a relatively new lifestage, has quickly become a . . . device for balancing the number of job seekers with the demand for workers at going rates of pay." But make no mistake, early retirement is also very popular with unions and the workers themselves.

This trend of early retirement raises new uncertainties. To the extent that early retirement benefits are *reduced* benefits, will the resulting retirement income be adequate? Will the lower benefits ultimately trigger demands for higher ones? Will meeting the costs of paying pension benefits over increasing periods of time create financing problems for public and private pension sponsors—threatening the viability of the pension plans themselves? Since the costs of early retirement policies are relatively low but grow rapidly over time (as the trend continues and spreads), some see this situation akin to a quiet bomb that is currently dormant but capable of suddenly exploding sometime in the future. Already many see social security costs out of control. Concern about private pension costs may soon follow.

Given these uncertainties (economic instability, problems of social security financing, and the trend toward early retirement), what can we say about the future? Here we find

very little agreement among analysts. Of course, such a state of affairs is not too surprising. We have learned not to be too surprised by the unpredictable, especially given the large number of unknown factors surrounding a social phenomenon like "the economics of aging." Still, for those who have taken more than a passing interest in this area, the current situation represents a significant and somewhat unexpected watershed.

Some analysts see us at the beginning of a long period of economic stagnation and decline. Others see current economic problems as just another temporary setback in the long-run history of economic growth and the ever-rising prosperity that has characterized the American economy for more than a century. Economic policies for the aging and ultimately the future economic status of the aged depend critically on which viewpoint is the more realistic.

Rather than taking sides in this dispute, it may be more useful at this point to enumerate some of the key assumptions that lie behind the two very different points of view. Our ability to finance economic programs for the aged in future years will be influenced greatly by the following factors:

1. *The Growth of Real Wages.* Until the late Sixties the growth in American productivity was relatively high for most of the post-World War II period. Since then, however, the rate has slackened and in recent years the slowdown has been quite dramatic. Moreover, this downturn has not been confined to a few special industries but has been experienced by a very broad spectrum of industries in the United States. Despite much research, economists have not been able to satisfactorily explain the changes in productivity that have taken place and, as a result, there is currently a great deal of uncertainty with regard to what is likely to happen in the years ahead.

Pessimistic projections generally assume that recent experience results from fundamental changes in the economy that are not likely to change quickly. They therefore assume that real wage increases based on productivity gains will be very low, averaging significantly less than 1.0 percent per year.

Optimistic projections, in contrast, assume that the recent experience is transient and in large part associated with the unexpected economic shocks of the last couple of decades—war, OPEC, crop failures, etc. These projections assume a return to rates closer to those of the 1940-60 period and real wages soon increasing between 1.0 and 2.0 percent per year.

2. *Unemployment.* Intimately relatd to productivity and growth is the level of employment. In addition to the general economic stagnation depressing employment opportunities, pessimists point to an apparent increase in structural problems associated with the American labor force as its age, sex, and race composition changes dramatically and as we shift away from manufacturing production and toward services. Thus, pessimistic projections assume unemployment will not decline to the earlier low levels but will range between 6 and 8 percent (high by historical standards). Optimistic projections assume rates only slightly higher than those of "better times"—declining to below 6 percent.

3. *Fertility Rates and Mortality.* We have witnessed wide fluctuations in fertility over the past century, creating an unevenness in the population structure and resulting difficulties in planning (for housing, schools, pensions, etc.) The sharp decline in fertility following the "baby boom" of the late Forties and early Fifties is currently the cause of serious concern with regard to the costs of the elderly population in the 21st century. But trends in fertility over the next several decades are also important, since they will in

great part determine the number of working-age persons available when the "baby boom" retires.

While most demographers continue to stress the volatility, and hence unpredictability, of future fertility, the projections we make now must guess as to the likely trends. Pessimistic projections assume that fertility will continue to fall to about 1.6-1.7 children per woman; while the optimistic ones assume fertility will increase slightly to 2.1-2.4 births per woman. (All projections fail to include illegal immigration.)

Remaining life expectance at age 65 is currently about 18.0 years for women and 14.0 years for men, up from 1940 by four and two years respectively. For projection purposes, the major breakthroughs in prolonging life that some predict are generally not made a part of the projections, and almost all projections generally assume some continuing but gradual improvement in mortaility experience at the later ages. Thus, the optimistic and pessimistic projections differ only by rate of improvement in life expectancy assumed, and this difference is typically small.

4. *Private Pensions.* Private pensions have grown dramatically during the post-World War II period—in coverage, in types of protection, and in benefit levels provided. Optimistic projections see this mechanism for income in old-age continuing to increase in importance. With liberalized tax provisions for IRAs and a variety of new pension options (e.g., 401(K) cash-or-deferred plans), private pension coverage—and hence pension benefits—are assumed to increase significantly. In contrast, the pessimistic projections see pension coverage growing slowly (perhaps even declining) as a result of (a) government regulations which make pensions a much less flexible management tool and raise administrative expenses, (b) higher benefit costs arising from continuing demands to liberalize benefits, and (c) escalating

premiums to the Pension Benefit Guaranty Corporation to protect against plan termination resulting from industry, and hence plan, instability.

5. *Health Care Costs.* There is now growing awareness among analysts and policymakers that the rapid rise in health care costs of the recent past is not likely to abate in the years to come. With regard to the elderly, most of the attention is focused on Medicare, which currently finances about 45 percent of their health care costs and most of acute care expenses. Since its enactment, Medicare expenditures have grown at a rate far faster than the other social security programs. In early 1983, the White House issued statistics to support President Reagan's "health care incentive reform proposal." "This year," said the fact sheet, "Medicare and Medicaid will spend more *every two weeks* than they did during the *entire year* of 1966, their first full year of operation" (White House, 1983). If the early retirement bomb is threatening us, many would argue that the Medicare bomb has already exploded, and the only argument is over how many more will follow.

Moreover, there seems to be general agreement among analysts that, in the absence of intervention, Medicare costs will continue to *accelerate* in future years. And many think that only very fundamental and radical changes in our health care delivery system will have any appreciable effect on future costs trends. In their *Annual Report* for 1983, the Trustees of the Social Security Administration project ("immediate" assumptions) that Medicare costs will continue to grow by 8 to 13 percent over the next two decades—significantly faster than the increase in revenues from taxable payrolls. The resulting costs (and deficits) are huge by any standard of comparison.

The Trustees attribute slightly over half of the annual growth in health costs to economic and demographic factors.

But the rest is expected to result from the continuing cost pressures within the health care industry itself—wage setting, insurance disincentives, and the costs of new technology. Peterson (1983) warns, for example, that the ". . . new medical technologies are priming the HI [Medicare] program for a cost explosion without precedent. . . ." And Alan Greenspan—testifying before the Subcommittee on Social Security, U.S. House Committee on Ways and Means (February 1, 1983) as Chairman of the National Commission on Social Security Reform—warns: "We cannot substantially constrain the cost of Medicare unless we slow the improvements in technology (a dubious goal) or choose not to employ the technology that is currently available. These decisions, of course, would raise very difficult ethical and moral questions."

Again, projecting future costs becomes a seemingly impossible exercise. Munnell (1983), arguing against the pessimistic projections of Peterson, counters in the following way:

> Outlays for HI [Medicare] today account for only 18 percent of total expenditures under the social security program; it is difficult to believe *that we will allow* the HI program to grow to a point where the cost for hospital insurance (20 percent of taxable payrolls) roughly equals the total cost to support the aged, disabled, their dependents and survivors (24 percent of payrolls). [Emphasis added.]

Thus, given agreement over the need for cost constraint, the optimists and pessimists tend to differ on how soon and how much we will change our health care system.

It is tempting to close by throwing up one's hands in frustration and exclaiming, "Who knows what the future will bring?" As our survey of the key factors has shown,

there is clearly much intellectual justification for uncertainty—and anxiety!

Instead, I want to close by adding a reactive note of caution. In recent years, good economic news has been virtually nonexistent. For this and other reasons it is quite clear that the pessimistic projections and the problems they portend are being taken very seriously these days by "the people that count." Given the seriousness in recent years of our general economic problems and a number of major problems arising in connection with old-age and disability pensions, state and local pension financing, private pension reinsurance, and Medicare/Medicaid—the possibility of continuing and increasing problems is not likely to be ignored.

And for a number of years now a variety of "solutions" or remedial steps have been proposed. The changes are almost all pointed in one direction—drastic cutbacks in benefits to reduce social security costs. As I have pointed out previously (Schluz 1983), the logical question that follows from such proposed action is: What else changes in reaction to cutbacks in social security (i.e., what takes the place of social security)?

In examining the ability of alternatives to pick up the slack from a pared down social security program, we should not ignore economic history. Despite what Martha Derthick (1979) says about bureaucratic elites engineering the expansion of social security, the development of OASDHI was to a very large extent a reaction to the failure of the alternatives—namely "employment of the old" and "providing for old age through personal savings." Both these alternatives are largely untenable due to the vicissitudes of our economic system over the years:

a) past periods of unemployment and inflation that have made preparation for retirement (i.e., financial plan-

ning) extremely difficult for individuals (if not impossible);

b) an inability to achieve sustained full employment—except in periods when the nation was preparing, fighting, or recovering from war—causing the government to actively discourage employment by older workers and to develop pension mechanisms that encourage retirement; and

c) both social security and private pensions with a long history as tools of business management to deal with cyclical and long-term shifts in demand (see, e.g., Graebner 1980).

What then are the alternatives proposed today? Not surprisingly, we find that they are the same as in the past: private saving, private insurance, and employment of the old.

Thus, there is a high probability that the solutions being proposed today are simplistic and unworkable. If we cut back social security drastically, we are likely to see the economic status of the elderly decline over time. More important, this decline will fall disproportionately on the disadvantaged segments of the population—low income persons, women, and minorities who now depend almost entirely on social security for their support in old age.

The long term implications of this are quite serious. As William Graebner has recently argued, the elderly may be viewed by our society as a residual group to remain in or move out of the labor force, according to the macroeconomic situation:

> If elderly people of the turn of the century could compare notes with those of us approaching this century's end, the two generations might well con-

> clude that, whatever else has changed, the fate of the elderly remains the same: to serve the needs of other age groups and to be retired, or put back to work in the interest of someone else's conception of the general welfare (Graebner 1983).

If that is true, then it is quite unlikely that many people in the future can actually count on the rosy retirement period (the Shangrila) so much the fashion today in the stories of the media and the speeches of politicians.

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# 4 Retirement Incentives—the Carrot and the Stick*

## Why No One Works Beyond 65 Anymore

Joseph F. Quinn
Boston University

### *Introduction*

The topic of this year's Economic Lecture series is the Economics of Aging. I am delighted with this choice of topic. It is an extremely interesting, important, and timely one, and it is one of the few issues on which I have any expertise. There are many aspects of the economics of aging that you will hear discussed this year. I have chosen only one of them, the retirement decision—"Why No One Works Beyond 65 Anymore: the Carrot and the Stick."

The presentation has four parts. I will first point out that something is happening. Retirement patterns have changed, and changed dramatically. Second, I will speak briefly about why this is important. Third, I will ask why this is occurring and finally, what we can do about it.

I will concentrate on the third of these. Why is it that these changes in retirement patterns are occurring? Why are peo-

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*Much of this presentation was drawn from an article by Richard V. Burkhauser (Vanderbilt University) and Joseph F. Quinn, "Influencing Retirement Behavior: A Key Issue for Social Security," *Journal of Policy Analysis and Management,* Fall 1983. More technical background material can be found in two earlier papers by the same authors, "Is Mandatory Retirement Overrated? Evidence from the 1970's," *Journal of Human Resources,* Summer 1983 and "The Effect of Pension Plans on the Pattern of Life-Cycle Compensation," in *The Measurement of Labor Cost* (Jack Triplett, editor), NBER Studies in Income and Wealth, Volume 48, University of Chicago Press, 1983.

ple retiring earlier than they used to? I will emphasize only one component of the answer to what is obviously a very complex question. That component concerns economic incentives—incentives imbedded in our social security and pension systems, incentives that induce retirement, I will argue, by penalizing the work effort of older workers. Social security and employer pensions impose pay cuts, large pay cuts in some cases, on older workers. These cuts do not occur through the paycheck, but through a much more subtle but no less effective mechanism. Many older workers respond exactly how you might expect to the pay cuts—they stop working and retire.

### *Retirement Trends*

Table 1 lays out the facts to be explained—the mystery to be solved. It includes longitudinal data on labor force participation rates from 1950 to 1981, by age and by sex. I draw your attention to the last two columns—data for men and women aged 55-64 and 65 and over. You will notice here a remarkable demographic trend. As recently as 1950, nearly half of American men over 64 were still in the labor force. A mere 30 years later, that proportion is down to less than 1 in 5.

Obviously, my title is a bit inaccurate. It is not true that nobody works beyond 65 anymore, but it is true that what was once a very common phenomenon, men over 65 working, is now relatively rare.

For the next category of men, 55-64, people of early retirement age, the pattern is similar though less dramatic. Within these same 30 years, the proportion still in the labor force has dropped from near 90 percent to near 70 percent. Something is happening.

As you can see, the statistics for women are quite different. The reason is that there are two trends underway

simultaneously. First, folks are retiring earlier. But second, more women are working than used to. These trends tend to offset each other for women over 65. The participation rate has stayed in the 8 to 10 percent range since 1950. For women of early retirement age, the increased labor force participation has dominated the early retirement trend, and the proportion working has grown from 27 to 41 percent.

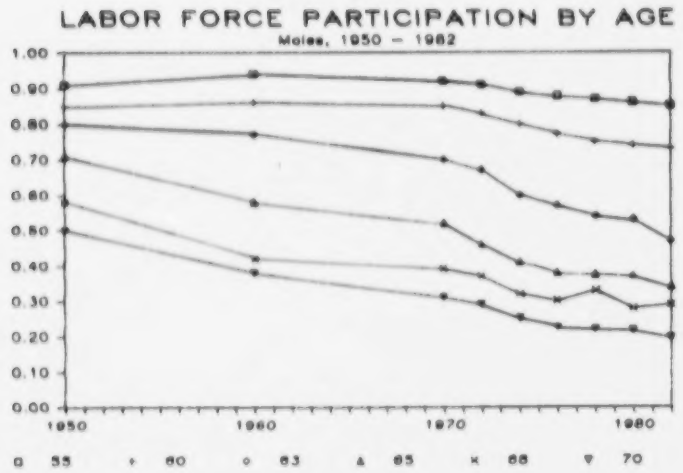
**Table 1**
**Labor Force Participation Rates**
**by Age and Sex**

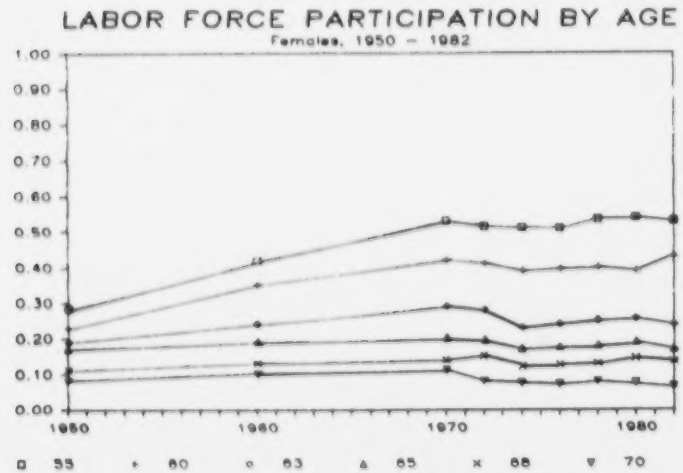
| | Age | | | | |
|---|---|---|---|---|---|
| | 25-34 | 35-44 | 45-54 | 55-64 | 65+ |
| Males | | | | | |
| 1950 | 96.2 | 97.6 | 95.8 | 86.9 | 45.8 |
| 1955 | 97.6 | 98.1 | 96.5 | 87.9 | 39.6 |
| 1960 | 97.5 | 97.7 | 95.7 | 86.8 | 33.1 |
| 1965 | 97.3 | 97.3 | 95.6 | 84.6 | 27.9 |
| 1970 | 96.4 | 96.9 | 94.3 | 83.0 | 26.8 |
| 1975 | 95.2 | 95.6 | 92.1 | 75.6 | 21.6 |
| 1981 | 94.9 | 95.4 | 91.4 | 70.6 | 18.4 |
| Females | | | | | |
| 1950 | 34.0 | 39.1 | 38.0 | 27.0 | 9.7 |
| 1955 | 34.9 | 41.6 | 43.8 | 32.5 | 10.6 |
| 1960 | 36.0 | 43.4 | 49.8 | 37.2 | 10.8 |
| 1965 | 38.5 | 46.1 | 50.9 | 41.1 | 10.0 |
| 1970 | 45.0 | 51.1 | 54.4 | 43.0 | 9.7 |
| 1975 | 54.9 | 55.8 | 54.6 | 40.9 | 8.2 |
| 1981 | 66.7 | 66.8 | 61.1 | 41.4 | 8.0 |

SOURCE: U.S. Department of Labor, Employment and Training Report of the President (1982).

Chart 1 is a picture of the same phenomenon, except that it uses individual ages rather than broad categories. If we define normal retirement age as the age at which half of the cohort are out of the labor force, we can use this chart to

**Chart 1**
**Labor Force Participation Rates**
**Males and Females, 1950 to 1982**



show what has happened to normal retirement age over these years. Back in 1950, for example, it was not until age 70 that half the men were out of the labor force. By 1970, 20 years later, 65 was the age at which half the men had withdrawn. Today that age is below 63. As you have seen, the picture for women is different. Despite a downturn in the early 1970s, a time, by the way, when social security benefits rose dramatically in real terms, the general trend for women has been up or steady, even in the oldest categories.

When one aggregates men and women, which I have not done here, the conclusion is clear: people are retiring earlier than they used to. Our mission, should we decide to accept it, is to find out *why* people retire when they do. It may be that people retire when they have to, when debilitating health problems or mandatory retirement rules drive them from their jobs. On the other hand, people may retire when they choose to. They face financial incentives that encourage retirement, and many may be induced to do so.

### *A Source of Concern?*

My second question is "why is this an issue?"—a polite way of asking "who cares?" Until recently, I think there was no particular alarm over these retirement trends. If anything, they were applauded. One of the goals of the early architects of the social security system, it has been argued, was to induce older workers out of the very weak labor markets of the 1930s.

But that goal, I suspect, faded during the war years and the more prosperous decades that followed. Nonetheless, this trend towards early retirement was viewed as a logical development in an increasingly wealthy society. Some of this wealth was spent on leisure, and some of this leisure was taken in the form of early retirement.

But this retirement trend is no longer viewed as benign for at least two reasons. One is the financial crisis facing social security. The social security trust funds are basically nonexistent these days. Current receipts from social security contributors are paid directly to current recipients. It is a pay-as-you-go system. There is nothing wrong with a pay-as-you-go system as long as future receipts are adequate to meet future obligations. But this was recently not the case.

Some of the social security funding crisis was a temporary phenomenon due to the recessionary years of the 1970s—if you are willing to call more than a decade of recession temporary. But part of the crisis is also due to these trends towards early retirement and to the early receipt of benefits by recipients.

The other reason for concern is anything but temporary. It derives from the well-known demographic fact that the age structure of America is changing. Currently, about 11 percent of our population is 65 or older. By 2025, this will grow to between 17 and 20 percent. The whole country will soon look like Florida, not with respect to winter weather, unfortunately for you Michigan residents, but with respect to the age distribution.

Even without changing retirement patterns, fewer workers per retiree would put strains on the social security system, implying either higher taxes for contributors, lower benefits for recipients, or both. When this demographic trend is combined with the fact that people are retiring earlier, the problems are compounded.

I think that older workers will be very much needed in the labor force of the future because they will be a larger proportion of the population. I fear that the elderly may be unwilling to work unless the financial incentives that I will discuss this evening are changed.

***Retirement Determinants***

In 1977, Congress changed the age of earliest mandatory retirement from 65 to 70. With a couple of minor exceptions, it is now illegal to have a mandatory retirement prior to age 70. Many people, including President Reagan and Rep. Claude Pepper, a leading spokesman for older American in Congress, favor outlawing mandatory retirement altogether. The entire concept may be legislated out of existence.

An interesting research question is whether this would make a difference. At first blush, it appears that it would. Prior to 1977, mandatory retirement provisions were a widespread phenomenon in the U.S. Between 40 and 50 percent of workers faced them, and many people retired at their mandatory retirement age. When one compares the behavior of people with and without mandatory retirement, their behavior is quite different.

Richard Burkhauser and I followed a sample of employed older workers (aged 62 to 64 in 1983, drawn from the Social Security Administration's Retirement History Study (RHS)) over a two-year period during which some of them faced mandatory retirement. Of those who did, only 17 percent were still working in 1975. Of those who did not face mandatory retirement, nearly 60 percent were still employed. This is a big difference in behavior and a large potential mandatory retirement effect.

But coincidence does not imply causation. I will argue tonight that there are important financial incentives that go into effect (or increase in magnitude) at exactly the same time that mandatory retirement occurs. It is difficult to say without considerable investigation that mandatory retirement was the reason why these people retired when they did. It is not easy to discern "who dunnit?" or in this case "what dunnit?"

Social security, pensions and mandatory retirement are all very closely intertwined. It is extremely important to understand how each of these determinants (and others, such as health, marital status, attitudes and expectations) influence the retirement decision. Why is it important? If mandatory retirement was forcing people out of the labor force at age 65, then a change in the mandatory retirement law, as we had in 1977, or its outright elimination will have a substantial impact on aggregate behavior. On the other hand, if it was not mandatory retirement but other factors that occur at the same time, then changing the mandatory retirement law will have very little effect on retirement trends.

Mandatory retirement and pensions tend to come hand and hand. In the sample of older workers mentioned above, nearly all (91 percent) of those facing mandatory retirement also had pensions. Most became eligible at exactly the same time as mandatory retirement and most were eligible for full rather than reduced benefits at that time. On the other hand, of those people who were not subject to mandatory retirement, fewer than half (47 percent) had pensions. If pensions induce people to retire, and I think they do, then much of what may look like a mandatory retirement effect may be the impact of these pensions.

Mandatory retirement and social security are even easier to link. The age of full social security eligibility is age 65. That is also the age, we will see, when a very important change in the social security law occurs. This change will play a key role in solving the mystery below.

Age 65 is important for another reason. Prior to 1977, this was by far the most popular age for mandatory retirement. If social security induces people to retire, and I think it does, much of its effect might also be attributed to mandatory retirement.

Let's look at the modus operandi of our suspects. Mandatory retirement is the simplest, although there are subtleties in some of the provisions. They generally state that an individual must leave the job when turning a certain age, or at the end of that calendar year. It is a straightforward and blunt instrument. It is the "stick" of the title of this talk.

Social security and employer pensions, on the other hand, are promises of income streams in the future. They are very complicated promises, and have many important dimensions, such as the age of eligibility, the size of the retirement benefit, whether that amount is adjusted for inflation after retirement, and what happens to that amount if one decides to delay retirement and continue working.

All of these aspects of the retirement contract are important determinants of how valuable these promises are. In empirical work, one must describe these complicated arrangements in a simple summary form. How big are an individual's pension and social security rights? The most popular way to answer this question is in terms of the annual benefit; for example, $6,000 per year. But that answer ignores other aspects of the pension that are extremely important. It says nothing about when one is eligible. It says nothing about what happens to the benefit after retirement. Is the $6,000 fixed, or does it grow with the cost of living? And what happens to the benefit if one decides to forgo the pension and work another year? Will the annual benefit increase, and if so, by how much?

A far superior summary statistic of the value of a pension is the wealth or asset equivalent of that promise. In economists' terms, it is the present discounted value of the future income stream—the amount of money that would have to be invested today to provide exactly the income stream that is promised. Because investments pay interest,

dollars promised farther and farther in the future are the equivalent to smaller and smaller amounts today.

As an example, with an interest rate of 10 percent, an investment of $60,000 would provide an annual income of $6,000 forever. A gift of $60,000 and a gift of $6,000 per year forever are exactly equivalent, given the 10 percent interest rate. By lending or borrowing, one could always turn either one into the other.

If $6,000 annual income will not last forever (for example, it terminates at death) then the asset equivalent is less than $60,000. The precise amount can easily be calculated.

There are tremendous advantages to defining the value of social security or pension promises in terms of their asset equivalent. First, the age of eligibility is important. The farther away it is, the lower current asset value of a given annual benefit.

In addition, inflation protection is easily incorporated into this calculation, via the discount rate that translates future dollars into today's dollars. Indexed benefits are discounted at the real rate of interest, whereas nominal benefits that do not grow with the cost of living are discounted at the nominal rate—the real rate plus the rate of inflation.

With the concept of present discounted value in mind, let me ask the following question. The answer to this question is key to my view of the financial incentives in our pension plans. Suppose an individual is currently eligible for retirement benefits of $6,000 per year until death. What happens to this annual benefit if the individual instead chooses to remain on the job and work another year?

There is good news and bad news. The bad news, with respect to the pension, is that the individual loses the $6,000. One does not draw pension benefits while continuing on the

job. The good news is that future annual benefits (employer pension or social security) are likely to exceed $6,000 because of that additional year of work.

Why are they higher? It is important to understand this. With respect to social security, future benefits increase for two reasons. First, annual benefits are based on a social security concept called average monthly earnings. With an additional year of work, average monthly earnings will rise, as will the subsequent benefit calculation.

In addition, there is a second reason—an actuarial adjustment, which is basically a reward from the Social Security Administration for claiming checks for one fewer year. Between 62, the earliest age of social security eligibility, and 65, the actuarial adjustment is about 7 percent per year of delay. At 65, prior to 1983, it dropped to 1 percent. This adjustment applies to all future checks. Most people recognize it in a slightly different form. Anyone contemplating retirement realizes that retirement at 62, the earliest age, rather than three years later, the normal age, entails a benefit reduction of 20 percent. This 20 percent is approximately three times the 7 percent annual figure that I have introduced.

Employer pensions are more complicated, because there are thousands of them, and each has its own individual requirements, rules and regulations. But pension benefits are usually based on either years of service or on average earnings over the last few years with the firm. Either of these is likely to grow with an additional year of work. In addition, some pension plans also have actuarial adjustments similar to that I described for social security.

The pension implication of the choice to retire or to work another year is not as simple as the choice between $6,000 and zero. It is a choice between two pension streams—one that begins immediately and provides $6,000 per year, and

another that pays nothing in the first year, but higher annual benefits (say, $6,500) in the future. Which one of these streams is worth more? It depends—always a safe answer in economics. It depends on whether the future $500 annual increments are sufficient to compensate for the $6,000 loss in the first year.

It is difficult to decide by looking at the streams, since the amounts arrive at different times. But as soon as they are translated into present discounted value, the answer is clear—the stream with the higher asset equivalent.

Suppose today's value of the first stream ($6,000, $6,000, $6,000, etc.) is $45,000, and the second ($0, $6,500, $6,500, etc.) is $50,000. Then working another year yields two benefits—paychecks for that year, which is certainly good news, and a $5,000 increase in the value of pension (or social security) rights. The latter increases by $5,000 *because* of the decision to work that year. As such, it is really a component of compensation. If the straight salary was $20,000 for the year, the true compensation was $25,000—$20,000 plus the $5,000 increment in pension wealth.

Unfortunately, it can work both ways. Suppose the present discounted value of the second stream were $40,000 rather than $50,000. What would true compensation be then? While the individual earns $20,000 in salary, the value of the pension rights drops by $5,000. Th true compensation is only $15,000 for the year of work.

An interesting question is which of these two scenarios is more likely to describe the situation facing older workers today. Before presenting some actual data, let me just summarize the results and describe the bottom line. Social security and many pensions are structured so that at some point—and certainly by 65—the second scenario holds. The present discounted value of social security and employer pension rights begin to decrease with continued work. One

pocket is filled by paychecks, while the other is picked by social security and pension rules. One's true compensation is less than it looks. This is the surreptitious pay cut I alluded to in the introduction.

When do these losses occur? They occur at different times for different people. But a major change in the incentives happens at age 65—precisely the age at which mandatory retirement was most likely to go into effect back when the Retirement History sample was being studied. This simultaneity makes it difficult, through not impossible, to discern exactly what was influencing individual behavior. Was it mandatory retirement, "the stick," or these financial incentives, "the carrot"—the pay cuts that often accompany age 65?

Table 2 shows actual data for a sample of employed men aged 63 to 65 in 1974. It illustrates what would have happened to the present discounted values of pension (top) and social security (bottom) rights if these workers had chosen to work another year. For 63 year old men, for example, there is relatively little change in the asset value of pensions. Similar proportions have them increased and decreased (the median is -$148), and most of the change is less than $1,000. (The 43 percent "unchanged" are those not eligible for pensions.)

At age 64, however, there are significantly more losers than gainers, and the size of the losses has increased. The median person, ignoring those unchanged, would lose over $1,100 in pension wealth. By age 65, nearly everyone loses and the median loss exceeds $2,000.

The changes in social security wealth are much more dramatic. Until 65, the median person gains—over $1,800 at age 63 and $800 at 64. But at 65, beware. Everyone would lose social security wealth with continued work. The median loss for this particular sample of men was over $3,000.

**Table 2**
**Changes in Present Value[a] of Employer Pensions and Social Security Associated with an Additional Year of Work, for Full-Time Employed Men Age 63 to 65 in 1974**
**(Distribution in percent)**

| | Age of employed men | | |
|---|---|---|---|
| **Employer pensions** | 63 (percent) | 64 (percent) | 65 (percent) |
| Reduced by more than $5000 | 2 | 1 | 6 |
| $3001 to $5000 | 2 | 4 | 8 |
| $1001 to $3000 | 7 | 26 | 27 |
| $1 to $1000 | 20 | 19 | 11 |
| Unchanged | 43 | 46 | 47 |
| Increased by $1 to $1000 | 22 | 4 | 1 |
| $1001 to $2000 | 3 | 0 | 0 |
| Total | 100 | 100 | 100 |
| Median[b] | -$148 | -$1,156 | -$2,062 |
| **Social Security** | | | |
| Reduced by $3001 to $6000 | 0 | 0 | 48 |
| $1501 to $3000 | 0 | 1 | 43 |
| $1 to $1500 | 12 | 16 | 3 |
| Unchanged | 6 | 3 | 6 |
| Increased by $1 to $1500 | 29 | 45 | 1 |
| $1501 to $3000 | 51 | 34 | 0 |
| $3001 to $6000 | 3 | 1 | 0 |
| Total | 100 | 100 | 100 |
| Median[b] | $1,852 | $857 | -$3,044 |

SOURCES: Data from the Retirement History Study of Social Security Administration; calculations by Burkhauser and Quinn.

a. Present values calculated with a 5 percent discount rate.

b. Median calculation omits those with no change.

Why the big change at 65? The reason is the legislated decrease in the actuarial adjustment, from 7 percent per year of delay between 62 and 64 to only 1 percent (in 1974) for each year of postponement after 65. The social security reward for continued work decreased dramatically, and became insufficient to compensate for a year of foregone benefits.

Whether these gains and losses are considered big depends on the object of comparison. Table 3 compares them to the individual's before-tax earnings. It calculates the wealth changes as a percent of salary.

The top half of the table refers to people who do not have pensions and are eligible for social security only. As was seen in table 2, the median person gains social security wealth at 63 and at 64, but loses substantially at 65. The median loss in this sample is estimated to equal about a third of an annual salary.

Below are individuals eligible for both social security and pensions. At the median, there is a modest net gain in total retirement income wealth at 63, a small loss at 64, and a dramatic loss at 65. The median 65 year old in this sample would be working for approximately half pay because of the penalties implicit in the social security and pension systems.

These estimates are very rough, and may exaggerate the size of the pay cut. They ignore issues of taxation, and assume that anybody who works full time loses all social security benefits. In fact, with low enough earnings, one can both work and collect social security benefits. The point of the table is that the work disincentives can be large. And keep in mind that there are distributions around these median values. There are losers even at ages when the median person gains.

**Table 3**
**Changes in Present Value of Employer Pensions and Social Security Associated with an Additional Year of Work, as a Percentage of Annual Before Tax Earnings, for Full-Time Employed Men Age 63 to 65 in 1974**
(Distribution in percent)

| | Age of employed men | | |
|---|---|---|---|
| **Eligible for social security only** | 63 (percent) | 64 (percent) | 65 (percent) |
| Loss of 30 percent or more | 0 | 6 | 74 |
| 10 to 30 percent | 3 | 4 | 17 |
| 1 to 10 percent | 17 | 18 | 9 |
| Gain of 0 to 10 percent | 23 | 22 | 0 |
| 10 to 20 percent | 24 | 32 | 0 |
| 20 to 30 percent | 23 | 10 | 0 |
| 30 percent or more | 11 | 8 | 0 |
| Total | 100 | 100 | 100 |
| Median change | +13 | +10 | -35 |
| **Eligible for social security and employer pension** | | | |
| Loss of 30 percent or more | 6 | 15 | 92 |
| 10 to 30 percent | 1 | 18 | 6 |
| 1 to 10 percent | 18 | 22 | 2 |
| Gain of 0 to 10 percent | 18 | 19 | 0 |
| 10 to 20 percent | 34 | 22 | 0 |
| 20 to 30 percent | 17 | 4 | 0 |
| 30 percent or more | 7 | 0 | 0 |
| Total | 100 | 100 | 100 |
| Median changes | +12 | -38 | -48 |

SOURCES: Data from the Retirement History Study of Social Security Administration; calculations by Burkhauser and Quinn.

Let me summarize what we have seen thus far. I am convinced that there are financial incentives to retire. At some age—certainly by 65, but earlier for many people—the values of social security and pension rights begin to decline if one continues to work.

Second, these work disincentives can be large relative to the paycheck. Third, these work disincentives grow significantly in magnitude at age 65, precisely the age of mandatory retirement prior to the 1977 legislation.

What I have not yet shown is that these incentives affect people's behavior. For that to occur, people must understand them and respond to them. Richard Burkhauser and I have analyzed the impact of these incentives, using samples of older workers drawn from the Retirement History Study, and find strong evidence that this is the case. Variables describing the size of social security and pension wealth changes associated with continued work are very significant in explaining differences in individual retirement behavior. The larger the wealth losses, the more likely people are to withdraw from the labor force and retire. The people in the sample certainly behave as though they understand and respond to financial incentives.

I can summarize about four years of research in a simple analogy—much as I hate to admit it. Consider the following contract. For any hour that you work before noon, you will be paid $10 per hour; for any hour you work after noon, you will be paid $6 per hour. How would you respond? Most people would try to pack all the work hours in before noon and head for the beach in the afternoon.

To oversimplify a bit, this is exactly what social security and pension systems do, except that noon is age 65. After age 65, or earlier for some, true compensation decreases because social security and pension rights become less and less

valuable with continued work. This occurs because higher benefits in the future do not adequately compensate for benefits foregone today.

Burkhauser and I have also found that about half of the difference in behavior we observed between people who did and did not have mandatory retirement could be explained by other factors, primarily the financial incentives I have described. Mandatory retirement is nowhere near as important as it looks. We predict, therefore, that changing the law, as we did in 1977, or eliminating mandatory retirement altogether would have only a modest effect on aggregate behavior.

Changing the mandatory retirement law was a good idea, because people who really want to remain at their jobs can do so—at least until age 70. But, I think it will have only small impact on retirement patterns. Why? I return to the title of this talk—"the Carrot and the Stick." Even if deprived of the stick, mandatory retirement, employers still retain the carrot, the incentives built into their pensions systems. Mandatory retirement and actuarially unfair pension systems are alternative means to the same end.

To change retirement behavior, it is essential to change the incentives. To some extent we already have. The 1 percent actuarial adjustment that social security applies after age 65 has already been increased in 1982 to 3 percent per year of delay. Although this is still far from actuarially fair, it does decrease the size of the work disincentives, and is a move in the right direction.

The incentives will be changed even further by a rarely publicized and little understood part of the legislation passed in April of 1983. This legislation delayed the cost of living adjustment for social security recipients for six months. It introduced the taxation of the social security benefits of high

income recipients. It proposes delaying the age of full social security eligibility from 65 to 67 by the year 2027. But most important from our perspective, it increases the actuarial adjustment from 3 to 8 percent over a twenty year period beginning in 1990. This may seem like a minor component of the legislation, but I think it is an important one. It makes social security wealth much less dependent on the age of retirement, and significantly decreases the size of the implicit pay cuts accompanying old age.

As an economist, I believe that people respond to financial incentives. My research confirms this. However, I will be the first to admit, if you haven't beaten me to it, that people respond to many other things as well. I do not mean to imply that this is the whole story of retirement—the whole answer is the question of why people retire when they do. Attitudes towards work are very important, as are health status, living arrangements, and expectations about the future. But the incentives that I have described tonight are also important. And they are more easily changed by public policy, such as legislation, than many of the other determinants. Acknowledging the incentives that are hidden in our pension and social security systems is essential to understanding what has occurred in the past and influencing what will happen in the future.

# 5 Inflation and the Economic Well-Being of Older Americans*

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## Introduction

It has long been believed that the elderly have fixed or constant incomes and thus are more adversely affected by inflation than other demographic groups. For example, at the beginning of the 1970s, Arthur Okun (1970, p. 14) concluded that the ". . . retired aged are the only major specific demographic group of Americans that I can confidently identify as income losers," in response to inflation. Illustrating the continuing prevalence of this view is the assessment of the 1981 White House Conference on Aging, which stated in its final report (p. 27, 30) that "the elderly are particularly vulnerable to loss from inflation" and that "reduced inflation is especially beneficial to retired persons because it allows them to be better able to take care of themselves." These comments express a widely believed conclusion that has influenced the development of public policy toward the elderly. During the past few years, that belief has been challenged in the public press and in scholarly papers. This paper contributes to an understanding of the response of the income of the elderly to rising prices, and documents the experience of the 1970s.

*This paper, presented by Robert Clark, was based in part on research reported in more detail in R.L. Clark, G.L. Maddox, R.A. Schrimper, and D.A. Sumner, *Inflation and the Economic Well-Being of the Elderly.* (Baltimore: Johns Hopkins University Press, 1984.)

The hypothesis that the elderly are more vulnerable to inflation is carefully examined in this paper and then rejected. The mistake in the above argument is assuming that older persons live on fixed incomes. In the recent past, the major income sources of the elderly have been earnings, social security payments, pensions, other federal transfer programs and returns on accumulated assets. Wages and interest rates that the elderly earn rise with expected inflation just as for the rest of the population. Explicit indexation, ad hoc adjustments, and in-kind benefit payments have maintained the real value of federally administered transfers to the elderly. Employer pension benefits also tend to rise with inflation, though these do not seem to have kept pace with price increases. Finally, informal transfers from family and consumption from accumulated durable assets are hard to measure but make up a significant factor in the well-being of the elderly. Since most of the sources of income for the elderly are not fixed but increase along with price increases, the real questions are the changes in elderly income relative to changes in the price of goods they purchase and relative to the incomes of other groups and the diversity in consumption and income among older persons.

Our measures of economic well-being indicate that real income of older persons rose during much of the 1970s. This rising real income for persons in the older age groups produced an increase in real consumption for most of the elderly. By contrast, wage increases did not keep up with inflation, so the median weekly real earnings of most groups of full-time wage and salary workers were approximately 10 percent lower in 1981 than in 1973. As a result the income of the elderly as a percent of income of the total population rose. Thus, during the past inflationary decade, the real and relative economic status of the elderly improved. These conclusions are based on comparing the experience of different sets of elderly households over time. Changes in real incomes

and expenditures for the same set of households in a cohort were negative; but this is not the result of inflation, rather it is a part of life-cycle patterns in income and spending.

A review of the experience of the 1970s will be helpful in understanding the future only if general relationships can be identified. Thus, in examining each source of income, we examine past changes in response to inflation and the adjustment mechanism. In the final section, we reexamine these general relationships in an attempt to assess the vulnerability of the elderly to price changes in the 1980s.

## Measuring Well-Being and Inflation

In order to examine the effect of inflation on well-being, a measure of well-being must be adopted. We use the principles of a subjective utility function or satisfaction index as our general measure of well-being. Individuals and families are assumed to allocate their productive resources to earn income and to allocate their income and time among goods and services to make themselves as well off as possible. For detailed discussions of utility maximization see textbooks by Layard and Walters (1978) or Henderson and Quandt (1980). The concept of economic welfare is discussed and applied in Moon and Smolensky (1977).

Changes in prices affect both sides of the income-expenditure relationship. For most families wage and interest rates are the most important prices on the income side, but other prices also directly affect the incomes of farmers and other self-employed persons. The amount of goods and services people may consume with their limited resources also depends on prices. Prices that matter most are, of course, those of the goods with the largest budget shares. These budget shares vary from household to household because of differences in age, income and other factors.

Most transactions in our economy use dollars to measure the goods and services being traded. Absolute or money prices are the rates of exchange between dollars and particular goods and services. The general price level or the level of the price index is an average level of the money prices in the economy. This average, however, must be compared to something to be meaningful. Typically, the general price level is compared to past price levels or to prices in other countries or regions. Inflation is the ratio of the sustained increase in the general level of prices compared to past levels. It might be thought of as a shrinking of the measuring rod we use to measure incomes and expenditures. To say that the prices of goods and services in general have risen is to say that the value of a unit of money has fallen. The magnitude of this decline is indicated by an increase in the price index.

Several indicators are available for measuring the increase in prices in the United States. Throughout this analysis we use the consumer price index (CPI) as our indicator of price changes. Wahl (1982) and Kahn (1982) recently have debated the use of the consumer price index as a measure of inflation. It is generally agreed that changes in the CPI have tended to overstate the rate of inflation in the United States. Thus, an upward trend in real income will be understated if nominal income is deflated by the CPI, but for our purposes this problem is not severe. For a discussion of the CPI and other measures of price changes in the context of the elderly, see Clark et al. (1981).

Information about price changes is valuable but costly, so consumers and producers use resources to discover how prices have changed. For example, a workers who received a wage increase may not know if the wages of workers in other firms or occupations have risen. She may then not know if a change of employers would be in her interest without searching in the labor market. Especially with variable rates of inflation, the cost of gathering price information and the costs

of mistakes in allocation may be quite sizable. If all prices rise in exact proportion, and if we all knew that this was happening, inflation would have little effect because we would design our institutions and transactions in a way so as to nullify the influence of these price changes. But in any economy, relative prices of goods and services are constantly changing along with wages and other determinants of consumer incomes. In response, people change the quantities of goods and services they buy and sell. They also change hours of work, occupations, and other determinants of income. With inflation added to normal movement of relative prices, allocative mistakes are more common and this constitutes a real cost of inflation in the economy (Dornbusch and Fischer 1981, Gordon 1981).

When people have the opportunity to substitute goods that have become cheaper for goods that become more expensive, they often can mitigate the negative effects of price changes. In fact, if nominal prices and incomes change in a way that leaves the original consumption bundle available, the consumer could always be better off after the price change. One of the major shortcomings of the CPI as a measure of the cost of living is that it does not allow for substitution in response to changes in relative prices.

Major factors in understanding the effects of inflation are: (a) the accuracy of anticipation of inflation, (b) confusion between relative price changes and inflation, and (c) (as an important corollary to the above) the speed and cost of institutional adjustments to inflation. If high rates of inflation were to persist, perceptions, expectations and institutions would more fully reflect potential inflation and its effect would be mitigated. This very important distinction between anticipated inflation and actual inflation should be kept in mind in any discussion of the effects of inflation and especially in drawing conclusions from past inflations about the potential effects of future inflations.

## Income and Expenditures of the Elderly and Their Sensitivities to Inflation

The major sources of income of elderly households in the United States are labor market earnings, social security, employer pensions, government cash transfers, private cash transfers, in-kind government transfers, asset income and the use of consumer durables. Some of these income sources are effectively fixed by past choices and circumstances, whereas others are responsive to current decisions. Some decisions are adjusted to changes in the economic environment facing the family (such as changes in actual or anticipated rates of inflation) whereas fixed income sources respond to changes in the economic environment only through institutional or other channels outside a person's direct control.

The elderly might be distinguished from others by their shares of income derived from each of the sources. For example, almost all persons over 65 receive some social security payments, which are now indexed for inflation. But shares of social security income vary widely among the elderly—for some it is the major income source, for others only a minor supplement. Another income source almost universal in coverage is medicare benefits, which form a part of the in-kind government transfers. The importance of medicare depends on the total amount of income available and also on the health of the elderly family. Since this transfer is an in-kind benefit, it is also effectively protected from inflation. Note that as is true for all in-kind transfers, the relative price of the commodity is affected by the form of the transfer.

Income received in the form of specified quantities of consumed goods and services is particularly hard to evaluate. Consider medical services, for example. A household that is eligible for medicare has received a low- (perhaps zero-) pric-

ed insurance plan. Part of the household's income is the value of this insurance. Even if a market value for the insurance could be established, however, some households would not have purchased it at that price. Thus, the household's income is overestimated in valuing medicare at its market value.

These income sources do not depend directly on the current choices of the elderly, but others do depend on individual choice. The choice to retire or to change hours of work are potentially flexible, and the wage earned will be affected by inflation. The value of pension benefits and the decision to accept pensions are also affected by current and anticipated inflation.

Changes in wealth and income from changes in the prices of assets and durable goods affect potential consumption and well-being in each period, even if the asset is not sold and the capital gain is not realized. Take housing services, for example. For a family owning the house in which it resides, part of its total income is the service flow in each period from the house. The family housing expenditure includes use of the house (rather than renting or selling it). An unanticipated increase in the price of houses increases wealth, but on the expenditure side it also increases the value of the service flow of housing received and hence the "expenditure" on housing.

These examples illustrate that inflation may affect the elderly differently from other families and that this effect will not be homogeneous among different segments of the elderly population. The amounts and shares of income received from each source and the decisions about work and other investments determine these differential impacts.

Consumption patterns of the elderly may also differ from the rest of the population. Consumption may be decompos-

ed as current purchases of goods and services, service flows from durables, private in-kind transfers, government in-kind transfers, net savings, and taxes and government services. The issue of taxes is usually dealt with either by using net after-tax income or by letting taxes be an expenditure category. If income tax payments are thought of as a payment for services, then gross income is the measure of income and taxes are one of the expenditure categories.

Given stocks of assets and income, the consumer makes a consumption-savings decision (that is, how much to add or subtract from net wealth) and a portfolio decision (that is, how to allocate savings or dissavings between assets and consumer durables). The saving decision of the household depends on the expected inflation-adjusted interest rate and other factors like expected length of life. The consumer also decides the allocation of current consumption among the potential goods and services. Allocation of consumption depends on the total income to be allocated, prices, and the other constraints that may be placed on the household. An example of these other constraints is the amount and form of in-kind income. Inflation may affect the consumption bundle by affecting relative prices, real current income, or other constraints that apply to the household.

Putting the income and expenditure together allows an accounting of the effect of inflation on potential consumption. In application to elderly Americans, specific facts about institutions, behavior patterns, and relative price changes are considered. This framework does not formally incorporate the increase in costs of mistakes in allocation of resource that follow necessarily from anticipated price changes. Nor does it incorporate the cost of additional resources spent to acquire the process information about price changes.

## Measuring the Real Income of the Elderly with the Retirement History Study

This section reports changes in income of older persons using populations from the Retirement History Study (RHS). We show the pattern of income as these groups lived through the inflationary period of the early 1970s. Examining the income of a group of older persons as they age will show the influences of lifecycle decisions along with changing economic conditions.

The RHS is a series of surveys conducted for the Social Security Administration using respondents aged 58-63 in 1969. Married men, nonmarried men, and nonmarried women were interviewed every two years. For this analysis, we use data from the 1969, 1971, 1973 and 1975 surveys. A comprehensive list of income, work and health questions was asked of over 11,000 respondents. The RHS has become the most widely used data for examining the income and work patterns of older persons (Irelan 1972). In each interview, respondents were asked detailed questions concerning their cash income in the preceding year. We focus on average nominal and real income for married couples.

This cohort analysis reveals significant declines in income with aging as earnings decline in response to reduced labor supply. This expected lifecycle pattern of income must not be confused with an inflation effect. The limited evidence suggests that the real income of older persons remained fairly stable during the years before retirement and through the retirement period.

### Real Income Patterns

The sources of income in the RHS used to determine family income are earnings, social security, employer pensions,

other governmental cash transfers, and asset income. The RHS survey does not include enough information to assess carefully the movements in other income sources. Earnings are shown separately for husband and wife and represent both wage and self-employment earnings. The other transfer income includes income from disability and welfare programs. Asset income is composed of income from rent, stock and bonds, and savings accounts.

The sample population of families consists of all husband and wife couples that remained together throughout the survey period; i.e., only those couples interviewed in every survey year are included in the base sample. The mean for each income source is calculated from the set of respondents with useable answers to the question concerning the specific income source in question including zero values.

Table 1 shows the income history of husband-wife couples as the ages of the husbands rise from 57 to 62 in 1968 to 63 to 68 years old by 1974. The mean nominal income of $9,773 in 1968 falls slightly over the six-year period to $9,129 in 1974. During this period, the consumer price index (CPI) rose from 104.2 to 147.7. As a result, the real income in 1967 dollars of this sample declined sharply from $9,380 to $6,181, a fall of 34 percent. The decline in real income occurs in response to inflation and changes in other economic conditions that alter the real returns to assets and labor supply. But the income pattern mostly reflects individual lifecycle decisions, especially declining hours of work in old age.

The changing composition of income is of particular interst to this study. In 1968, earnings represented 88.2 percent of family income; however, by 1974, nominal earnings of the husband had dropped by almost half, and family earnings accounted for only 45.0 percent of total income. This decline is primarily the result of fewer hours worked per workers and fewer workers. These are expected lifecycle patterns. But

the earnings decline is also influenced by changing real wages and family income, which may be altered by inflation. Though earnings are less important to the elderly, even when the husbands are aged 64 to 69, they comprise half of the average family income.

**Table 1**
**Mean Income for Couples in Retirement History Survey 1968-74**

| Source | 1968 | 1970 | 1972 | 1974 |
|---|---|---|---|---|
| Earnings | | | | |
| Husband | $7,066 | $6,545 | $5,247 | $2,938 |
| Wife | 1,550 | 1,546 | 1,396 | 1,172 |
| Social security income | 190 | 320 | 967 | 2,102 |
| Pension income | 340 | 551 | 1,026 | 1,709 |
| Other government transfers | 63 | 220 | 291 | 262 |
| Asset income | 565 | 738 | 937 | 1,039 |
| Total nominal income | 9,773 | 9,762 | 9,863 | 9,129 |
| Total real income[a] | 9,380 | 8,394 | 7,728 | 6,181 |
| Sample size | 3,361 | 3,416 | 3,376 | 3,725 |

SOURCE: Retirement History Study, 1969-75 interviews.

a. Values in 1967 dollars as measured by the consumer price index.

Employer pension and social security benefits account for an increasing proportion of average family income as the household ages. Pensions represented 3.5 percent and social security 1.9 percent of family income in 1968, but they increase in importance to 18.7 and 23.0 percent, respectively, in 1974. Growth in the mean pension and social security income is primarily attributable to the increased proportion of persons receiving these payments. Inflation may alter pension income by influencing labor supply choices and by reducing the real value of a given nominal pension. Other monetary government transfers represent less than 3.0 per-

cent of income in all years. The effect of inflation on this form of income depends on the government response to higher prices in the form of increased benefits.

The significant rise in mean asset income between 1968 and 1972, while the average age of the sample increases for 60 to 64 years, is consistent with a growth in personal wealth in the years immediately prior to retirement. Hurd and Shoven (1982b) found that the real value of stocks and bonds for RHS couples fell, but the real value of bank accounts rose. Real income from current assets depends on the rate of return compared with the change in prices. The elderly experience inflation effects different from others only if the makeup of their investment portfolios differs.

Table 1 suggests that the fall in real income is due primarily to the change in labor market income. This finding is supported by the data in Table 2, which shows real income is fairly stable during the final work years, declines at retirement, and then remains constant during the retirement years. Disaggregating this sample by age of husband, race and residence reveals a similar pattern of decline in real income with age. This decline and changing composition of income is also observed for nonmarried men and women. This conclusion is further supported by an examination of older cohorts in the Panel Survey of Income Dynamics and of respondents in the 1972-73 Consumer Expenditure Survey (see Clark et al., 1984). These findings concerning trends in the real income of older persons as they age are also in general agreement with related findings of Hurd and Shoven (1982a), Barnes and Zedlewski (1981) and Bridges and Packard (1981). For a better understanding of the response of real income to inflation, specific income sources are examined in more detail. This analysis clearly indicates that most sources of income of the elderly rise with increases in consumer prices.

**Table 2**
**Real Income for Families in the Retirement History Study by Year of Husband's Retirement**

| | Real income[a] | | | |
|---|---|---|---|---|
| | 1968 | 1970 | 1972 | 1974 |
| Retire between 1969-71 .... | 10,036 | 7,281 | 5,229 | 5,154 |
| Retire between 1971-73 .... | 9,953 | 9,994 | 7,712 | 5,327 |
| Retire between 1973-75 .... | 9,972 | 9,602 | 9,754 | 7,051 |
| In labor force 1969-75 ..... | 9,980 | 9,711 | 9,718 | 9,003 |

SOURCE: Retirement History Study, 1969-75 interviews.

a. Values in 1967 dollars are measured by the consumer price index.

## Earnings

Individuals develop lifecycle plans for time and resource allocation that generate anticipated age-earnings patterns. As persons age, they tend to reduce their labor supply either by entirely leaving the labor force or by working fewer hours. The declines in mean cohort earnings reported earlier are not unexpected and should not be considered mainly a response to inflation. However, unanticipated events such as unexpectedly high rates of inflation may cause persons to change their lifetime plans of work and retirement. These changes would occur in response to changes in the real wage rate and to shifts in the real value of wealth.

As long as real wages and real wealth are unchanged in response to inflation, older persons would likely not modify their work and retirement plans during periods of rising prices. The important issues are how inflation alters the real compensation package and wealth that a person expects. Clearly, the wage may change in late life even without price changes. The wage could be changing in response to economy-wide productivity gains, other macroeconomic

conditions, individuals augmenting their skills, or persons suffering declines in their talents, perhaps because of health declines. Lifecycle models usually predict declining real wages during the final work years (Ghez and Becker 1975).

Various institutional arrangements such as labor contracts and equal opportunity laws may limit wage adjustments by hampering reductions in nominal wage rates while allowing real wage reductions. Inflation may permit some firms to lower real wages and encourage earlier retirement. Even if the cash wage rises at the same rate as prices, the total compensation may fall because of the effect of inflation on the real value of fringe benefits. For example, the real value of initial pension benefits decline with rising prices if the benefit is determined using a salary averaging period (Clark and McDermed 1982).

Table 3 shows that the labor force participation rate for husbands fell from 79.4 to 25.2 percent between 1968-1974. For men in the labor force, average hours of work declined from 42.6 to 34.4 hours per week. Smaller declines occurred for wives in both of these measures of labor supply. These reductions in labor supply reflect declines in work with age and responses to inflation and other economic events.

**Table 3**
**Labor Supply of Couples**

| | Husbands | | Wives | |
|---|---|---|---|---|
| | Labor force participation | Hours per week | Labor force participation | Hours per week |
| 1969 | 79.4 | 42.6 | 33.1 | 35.9 |
| 1971 | 65.1 | 41.3 | 31.7 | 35.8 |
| 1973 | 40.5 | 39.4 | 25.5 | 34.9 |
| 1975 | 25.2 | 34.4 | 20.1 | 32.9 |

SOURCE: Retirement History Study, 1969-75 interviews.

During this period, average earnings for men declined by more than 57 percent, reflecting reduced market work. Earnings of wives fell by 23 percent. These declines in nominal earnings occurred despite rising nominal wages. The average nominal wage of working men rose by one-third from $3.71 in 1969 to $4.93 in 1975 and the mean nominal wage of working wives rose by 60 percent. However, the real wage of men fell by almost 10 percent and average real earnings dropped 70 percent. By contrast, the real wage of the wives, who are usually slightly younger than their husbands, rose by 10 percent, but their real earnings fell because of reduced labor supply.

## Social Security

Throughout the first three decades of the existence of the social security system, benefits were increased periodically by specific congressional action. The 1972 amendments provided for automatic indexing of benefits starting in 1975. Past earnings records were indexed to provide for rising real initial benefits. Both the indexing and the *ad hoc* changes have actually increased the real value of social security benefits for many retirees. For example, the benefits of a person retired in 1967 would have risen by 171 percent between 1968 and 1979. Since the CPI rose by 117.7 percent, real social security benefits have increased by approximately 25 percent. Most of these real increases occurred between 1968 and 1972, prior to the automatic adjustment of benefits. Since that time, benefits have risen in step with increases in the CPI, and the real value of benefits has by and large remained constant. Nominal increases in benefits after retirement between 1968 and 1982 are shown in Table 4.

An examination of increases in social security benefits in the RHS sample indicates that real social security income was largely insulated from erosion by price increases. The ad

## Table 4
## Social Security Benefits in January of Each Year[a] as a Percent of Initial Benefits

| Year | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1968 | 100 | 113 | 130 | 143 | 143 | 172 | 172 | 190 | 106 | 219 | 212 | 247 | 271 | 310 | 345 |
| 1969 | | 100 | 115 | 127 | 127 | 152 | 152 | 168 | 182 | 194 | 205 | 218 | 240 | 274 | 305 |
| 1970 | | | 100 | 110 | 110 | 132 | 132 | 147 | 158 | 168 | 178 | 190 | 209 | 239 | 266 |
| 1971 | | | | 100 | 100 | 120 | 120 | 133 | 144 | 153 | 162 | 173 | 190 | 217 | 241 |
| 1972 | | | | | 100 | 120 | 120 | 133 | 144 | 153 | 162 | 173 | 190 | 217 | 241 |
| 1973 | | | | | | 100 | 100 | 111 | 120 | 128 | 135 | 144 | 158 | 181 | 201 |
| 1974 | | | | | | | 100 | 111 | 120 | 128 | 135 | 144 | 158 | 181 | 201 |
| 1975 | | | | | | | | 100 | 108 | 115 | 122 | 130 | 142 | 162 | 180 |
| 1976 | | | | | | | | | 100 | 106.4 | 113 | 120 | 132 | 151 | 168 |
| 1977 | | | | | | | | | | 100 | 105.9 | 113 | 124 | 142 | 158 |
| 1978 | | | | | | | | | | | 100 | 106.5 | 117 | 134 | 149 |
| 1979 | | | | | | | | | | | | 100 | 109.0 | 126 | 140 |
| 1980 | | | | | | | | | | | | | 100 | 114.3 | 127 |
| 1981 | | | | | | | | | | | | | | 100 | 111.2 |
| 1982 | | | | | | | | | | | | | | | 100 |

SOURCE: *Social Security Bulletin: Annual Statistical Supplement,* 1977-79, p. 26 and recent issues of *Social Security Bulletin.*

a. The values along a row indicate the Social Security benefit in each year as a percent of benefits in the year a person retired. For example, find the year of retirement on the left-hand column, say 1971. In 1974, the benefit for a person who retired in 1971 is 120 percent of the initial benefit received in 1971. These percentages represent the minimum percentage increase in primary insurance amounts.

hoc increases in post-retirement benefits were sufficient to stabilize or increase real benefits during this decade. Initial benefits were rising more rapidly than the rate of inflation. These findings have important implications for the impact of inflation on the well-being of the elderly. First, this important component of income of older persons has not declined with price increases. Since over 90 percent of persons 65 and over receive social security benefits, this is a significant observation. Second, low income persons rely more heavily on social security benefits since they tend not to have other forms of cash income. For example, the 1970 Survey of Newly Entitled Beneficiaries indicated that for the lowest income groups social security benefits accounted for over 80 percent of total cash income, but for high income groups, social security is less than 20 percent of income.

Initial benefits at retirement also have risen rapidly. Table 5 illustrates the rise in initial benefits when average monthly earnings are held constant over time. Rising lifetime earnings of successive cohorts of retirees have produced additional gains in initial benefits because of higher average monthly earnings.

## Pension Benefits

The real value of pension benefits during retirement is determined by the rate of inflation and the extent of any post-retirement benefit increases. One method of illustrating the effect of inflation on the real value of pension benefits is to calculate the expected wealth value of a constant benefit over a person's life. In this formulation, the value of the pension annuity is discounted by an interest rate and the probability of remaining alive to receive the benefit. For a 60-year-old male retiree, a 7 percent annual rate of inflation lowers the discounted value of his pension wealth by 58 percent (Clark and McDermed 1982).

**Table 5**
**Benefits for Persons Starting Payment at Age 65 in Various Years When Average Monthly Earnings are $250, $500, $750, $1,000**

| | AME | | | |
|---|---|---|---|---|
| Year | $250 | $500 | $750 | $1,000 |
| 1969 | 114.51 | 117.51 | 218.00[a] | 218.00[a] |
| 1970 | 131.68 | 209.13 | 250.70[a] | 250.70[a] |
| 1971 | 144.85 | 224.56 | 295.40[a] | 295.40[a] |
| 1972 | 144.85 | 224.56 | 295.40[a] | 295.40[a] |
| 1973 | 173.82 | 269.46 | 354.97 | 404.50[a] |
| 1974 | 192.93 | 299.10 | 394.01 | 449.54 |
| 1975[b] | 208.37 | 323.03 | 425.53 | 485.48 |
| 1976[b] | 221.69 | 343.66 | 452.73 | 516.50 |
| 1977[b] | 234.77 | 363.94 | 479.454 | 547.00 |
| 1978[b] | 250.03 | 387.60 | 510.62 | 582.57 |
| 1979[b] | 274.78 | 425.60 | 561.18 | 640.25 |

SOURCE: Derived from information in *Social Security Bulletin: Annual Statistical Supplement*, 1977-79, pp. 15-19.

a. Reached or exceeded the maximum level of PIA.

b. Law was effective in June of the given year.

This illustration assumes that pension benefits are not increased after a person retires and begins receiving benefits. Many pension plans, however, are increased in response to inflation, so benefits rise when the CPI increases. For example, the Federal Civil Service Retirement system has been fully indexed since 1962 and many private plans provide ad hoc increases (King 1982). Allen, Clark and Sumner (1984) report that the average pension benefit for persons who retired before 1973 rose by 24 percent between 1973 and 1979. This represented 40 percent of the CPI rise during the period. These increases were widespread, as 75 percent of all beneficiaries received at least one increase.

Table 6 shows the mean real pension benefit of married men in the RHS between 1968 and 1974. The sample is divided by the survey year in which these men first are shown to be receiving benefits. For persons who were receiving benefits in 1968, the mean real 1974 benefit was only 3 percent lower. Somewhat larger declines are observed for the groups that began to receive benefits in 1970 and 1972.

**Table 6**
**Real Pension Benefits of Married Men in RHS, 1968-74**

| Year of first benefit | Real pension benefit[a] | | | |
|---|---|---|---|---|
| | 1968 | 1970 | 1972 | 1974 |
| 1968 | 2,619[b] | 2,325 | 2,341 | 2,547 |
| 1970 | | 2,159 | 2,107 | 2,071 |
| 1972 | | | 2,220 | 1,956 |
| 1974 | | | | 1,942 |

SOURCE: Retirement History Study, 1969-75 interviews.

a. Benefits are in 1967 dollars as measured by the consumer price index.

b. The 1969 survey did not identify the proportion of family pension income in 1968 attributable to the husband and wife. The 1968 figure represents our estimate based on examination of information in subsequent surveys and 1969 data on family members receiving pension benefits.

These declines seem surprisingly small, especially for those who have been retired the longest. This is due to the use of the mean as a summary statistic and the fact that some people report large increases in pension benefits from one survey to the next. The pension income of these men may rise because firms have raised their benefits or because they begin to receive a second pension. The addition of a second benefit may substantially boost pension income and have a significant effect on the sample mean. This possibility is shown in Table 7 by the fact that over 20 percent of the men have a 25 percent or larger gain in real benefits between the year of in-

itial benefits and 1974. Table 7 also shows that when the sample is divided at the mean of initial benefits, fewer persons with initial benefits below the mean had a decline in the real value of their benefits. Further evidence that much of the gain in real pension income is due to the starting of a second pension is the finding that almost 90 percent of persons with gains of 25 percent or more are persons who had pension income below the mean when they first started receiving benefits. Thus, it seems likely that these men began pensions from previous jobs as soon as they were eligible for benefits. These relatively low benefits were eventually supplemented by retirement income from more recent employment.

**Table 7**
**Percent of Beneficiaries with Change in Pension Income Between Initial Year of Benefits and 1974**

| | 1968 retirees | 1970 retirees | 1972 retirees |
|---|---|---|---|
| Any increase in nominal benefits | 49.1 | 52.9 | 53.2 |
| Loss in real benefits | 70.0 | 64.7 | 69.0 |
| Gain in real benefits | 30.0 | 35.3 | 31.0 |
| Above mean benefit | | | |
| Loss in real benefits | 79.3 | 78.3 | 81.4 |
| Gain in real benefits | 20.7 | 21.7 | 18.6 |
| Below mean benefit | | | |
| Loss in real benefits | 64.9 | 57.7 | 62.1 |
| Gain in real benefits | 35.1 | 42.3 | 37.9 |

SOURCE: Retirement History Study, 1969-75 interviews.

These results are generally consistent with the findings of Thompson (1978) that the median pension benefit for completely retired pensioners in the RHS aged 63-64 rose from $1,980 in 1970 to $2,160 in 1974. This represents a fall in the

real value of the benefits, since the CPI increased by 14 percent and the nominal benefits rose by only 9 percent. The use of completely retired persons probably eliminates many persons who acquired a second pension but continued employment. This restricting of the sample population reduces the variability of pension income over the period and reduces much of the gains in pension income.

### Evidence on Real Incomes of Persons 65 and Older

In contrast to the cohort analysis that follows a specific group of individuals over time, this section uses aggregate data to indicate the rising real income of all persons 65 and older in each year. This analysis starts with a review of the trend in cash income and then extends the discussion to include the use of time and the value of in-kind benefits.

The median cash income, deflated by the CPI, of families whose head is aged 65 or older rose by almost 100 percent between 1950 and 1980. This rising real income of the elderly is own in Table 8. Compared to that of all families, the relative income of older families declined by 10 percent in the 1950s, remained fairly stable during the 1960s and rose by 20 percent during the 1970s. Because the median income of all families can be substantially affected by the age-composition of the population, the real income of older families is compared in Table 8 with that of families whose head is age 45-54. Heads of these families are in their peak earnings years, thus the ratio of the income of elderly families to that of families with heads aged 45-54 will be lower than when compared to the relative income of all families. Compared to the income of these middle-aged families, the relative income of older families fell by 13.4 percent during the 1950s and by 6.7 percent in the 1960s before rising by 13.4 percent during the 1970s (see Table 9). During these decades, the consumer price index rose by 23.3 percent, 31.1 percent, and 112.4 per-

cent, respectively. Thus, the loss in relative income was greatest when inflation was the lowest and there was a significant gain in relative income during the high-inflation decade of the 1970s. It could be argued that the rise in relative income of the elderly occurred because of the virtual cessation of real economic growth during the 1970s which stopped the growth in the real income of workers. By contrast, the real income of the elderly continued to rise with increases in the real value of government transfers.

**Table 8**
**Real Median Family Income**

| | Head of family 65 and over (1) | Head of family aged 45-54 (2) | Relative income of elderly families [(1 ÷ 2)x100] |
|---|---|---|---|
| 1950 | $2,639 | $ 5,110 | 51.6 |
| 1955 | 2,900 | 6,344 | 45.7 |
| 1960 | 3,266 | 7,303 | 44.7 |
| 1961 | 3,377 | 7,491 | 45.1 |
| 1962 | 3,536 | 7,770 | 45.5 |
| 1963 | 3,655 | 8,086 | 45.2 |
| 1964 | 3,634 | 8,344 | 43.6 |
| 1965 | 3,661 | 8,717 | 42.0 |
| 1966 | 3,750 | 9,116 | 41.1 |
| 1967 | 3,927 | 9,676 | 40.6 |
| 1968 | 4,348 | 10,012 | 43.4 |
| 1969 | 4,374 | 10,561 | 41.4 |
| 1970 | 4,345 | 10,422 | 41.7 |
| 1971 | 4,495 | 10,706 | 42.0 |
| 1972 | 4,763 | 11,218 | 42.5 |
| 1973 | 4,827 | 11,437 | 42.2 |
| 1974 | 5,081 | 11,210 | 45.3 |
| 1975 | 4,998 | 10,899 | 45.9 |
| 1976 | 5,115 | 11,165 | 45.8 |
| 1977 | 5,019 | 11,478 | 43.7 |
| 1978 | 5,193 | 11,580 | 44.8 |
| 1979 | 5,202 | 11,661 | 44.6 |
| 1980 | 5,215 | 11,035 | 47.3 |

SOURCE: U.S. Bureau of Census, *Current Population Reports*, Series P-60, various years.
a. Values derived by deflating nominal income by CPI, 1967 = 100.

**Table 9**
**Change in Real and Relative Income**

| | Percent increase in real cash median income | | | |
|---|---|---|---|---|
| | Family head aged 65 & over | Family head aged 45-54 | Percent change in relative income of elderly[a] | Percent change in consumer price index |
| 1950-60 | 23.8 | 42.9 | -13.4 | 23.3 |
| 1960-70 | 33.0 | 42.7 | -6.7 | 31.1 |
| 1970-80 | 20.0 | 5.9 | 13.4 | 112.4 |

SOURCE: Table 8.

a. Percent change in last column of Table 8.

A further indication of the improving relative income of the elderly is the decline in the incidence of poverty among older Americans. Table 10 shows this decline along with the change in the poverty rate for the total population. The decline of poverty among the elderly has been much greater than among other groups, and in 1982 for the first time the poverty rate of the elderly was less than that for the population at large.

The subsection on earnings showed that households also vary the way in which they allocate their time in order to influence their level of living. Instead of market work, time can be used to produce services consumed by the family. These services may be in the form of meal preparation, home repairs, leisure time, etc. Time at home is an important aspect of family well-being. The trends in cash income presented above do not include changes in time at home that would affect family well-being.

Age-specific labor force participation rates are one measure of the intensity of market work by a population group and hence are an indirect measure of time available for home activities. Table 11 shows that the participation

rate for males aged 65 and over fell by over 50 percent between 1950 and 1980. Participation rates for older women have fallen slightly during this period. Thus, the rise in real income reported in Table 8 understates the increase in welfare because of significant increases in home time by the elderly. By contrast, the total work effort of persons 45-54 increased during these three decades and the gains in income for them overstates the rise in their well-being.

**Table 10**
**Poverty Rates of the Elderly and Total Population**

| | Elderly | | Total population | |
|---|---|---|---|---|
| | Poverty rate | Number of persons | Poverty rate | Number of persons |
| | | (in millions) | | (in millions) |
| 1959 | 32.2 | 5.5 | 22.4 | 39.5 |
| 1968 | 25.0 | 4.6 | 12.8 | 25.4 |
| 1969 | 25.3 | 4.8 | 12.1 | 24.1 |
| 1970 | 24.5 | 4.7 | 12.6 | 25.4 |
| 1971 | 21.6 | 4.3 | 12.5 | 25.6 |
| 1972 | 18.6 | 3.7 | 11.9 | 24.5 |
| 1973 | 16.3 | 3.4 | 11.1 | 23.0 |
| 1974 | 15.7 | 3.3 | 11.6 | 24.3 |
| 1975 | 15.3 | 3.3 | 12.3 | 25.9 |
| 1976 | 15.0 | 3.3 | 11.8 | 25.0 |
| 1977 | 14.1 | 3.2 | 11.6 | 24.7 |
| 1978 | 14.0 | 3.2 | 11.4 | 24.5 |
| 1979 | 15.2 | 3.7 | 11.6 | 25.3 |
| 1980 | 15.7 | 3.9 | 13.0 | 29.3 |
| 1981 | 15.3 | 3.9 | 14.0 | 31.8 |
| 1982 | 14.6 | 3.8 | 15.0 | 34.4 |

SOURCES: U.S. bureau of Census, *Current Population Reports*, Series P-60, No. 127, "Money Income and Poverty Status of Families and Persons in the United States: 1980" (Advance Data from the March 1981 Current Population Survey), GPO, Washington, 1981, p. 29 and U.S. Bureau of Census, *Current Population Reports*, Series P-60, No. 140, "Money Income and Poverty Status of Families and Persons in the United States: 1982," GPO, Washington, 1983, p. 4.

**Table 11**
**Labor Force Participation Rates**

| | 65 and over | | 45-54 | |
|---|---|---|---|---|
| | Males | Females | Males | Females |
| 1950 | 45.8 | 9.7 | 95.8 | 37.9 |
| 1955 | 39.6 | 10.6 | 96.5 | 43.8 |
| 1960 | 33.1 | 10.8 | 95.7 | 49.8 |
| 1965 | 27.9 | 10.0 | 95.6 | 50.9 |
| 1970 | 26.8 | 9.7 | 94.2 | 54.4 |
| 1975 | 21.7 | 8.3 | 92.1 | 54.6 |
| 1979 | 20.0 | 8.3 | 91.4 | 58.4 |
| 1980 | 19.1 | 8.1 | 91.2 | 59.9 |

SOURCE: U.S. Bureau of the Census, *Current Population Reports*, Series P-60, various years.

Cash income also ignores the value of in-kind transfers received by older persons. Besides family and other private transfers, the federal government provides in-kind benefits in the form of health insurance and payment for medical services, food stamps and other nutritional programs, housing assistance, and energy assistance. Most of these programs have been initiated and expanded during the last two decades. For example, medicare and medicaid were established by legislation in 1965 and Table 12 shows the significant increase in the real value of these benefits per older person during the 1970s. The combined real value of medicare and medicaid for the average older person rose from $324.25 in 1970 to $580.98 in 1981, or an increase of 79 percent. Thus, the inclusion of medical in-kind benefits with cash income would result in an even greater rise in the real income of the elderly during the 1970s than that indicated in Table 8. Other in-kind transfers have also increased in real value. For example, the real value of the subsidy for food stamps rose from $95.16 per older recipient in 1970 to $144.55 per older recipient in 1981.

Table 12
Real In-Kind Transfers of Medical Services
Per Persons Aged 65 and Over

| | Medicare[a] | | Federal Medicaid[b] |
|---|---|---|---|
| | Health insurance | Supplemental health insurance | |
| 1970 | 215.07 | 47.26 | 61.92 |
| 1975 | 278.70 | 69.72 | 76.72 |
| 1978 | 309.42 | 92.38 | 90.95 |
| 1981 | 370.54 | 126.54 | 83.90 |

a. Values deflated by the medical component of the consumer price index, 1967 = 100.

b. Estimates for total medicaid expenditures for persons aged 65 and over are divided by population aged 65 and over. Expenditure estimates are from unpublished data from Department of Health, Education and Welfare (1978); Califano (1978) and U.S. Congressional Budget Office, 1982. Nominal values are deflated by the medical component of the consumer price index.

## The Growth of Federal Transfer Programs to the Elderly

This section provides documentation of the role of federal transfers in the income of the elderly. During the past half century, the federal government has played an increasing role in the determination of the economic well-being of the elderly. The growth and development of cash and in-kind benefit programs has significantly altered the sources of income for most older persons. Federal expenditures on the elderly include payments through retirement programs, old age survivors disability insurance (OASDI), health-care subsidies, welfare programs, housing assistance and social services. Table 13 lists the specific programs and the costs of transfers from these programs in fiscal 1982 (U.S. Congressional Budget Office 1982; also see Califano 1978).

These federal expenditures have risen dramatically since the early 1960s because of legislative changes and growth in

the older population. The number of people aged 65 and over has increased by 57.5 percent, from 16.7 million in 1960 to 26.3 million in July 1981. Benefit programs to the elderly were $12.8 billion in 1960, whereas expenditures in 1982 reached $196.2 billion, a fifteenfold increase. These figures do not include the value of preferential tax treatment given to the elderly.

**Table 13**
**Estimated Federal Outlays for Persons 65 and Older by Program, Fiscal Year 1982**
**(in billions of dollars)**

| Program | Outlays |
|---|---|
| Social Security | 111.8 |
| Medicare | 39.7 |
| Other federal retirement and survivor programs | 21.1 |
| Medicaid | 6.5 |
| Veterans' benefits | 4.3 |
| Housing Assistance | 3.3 |
| Supplemental Security Income | 2.9 |
| Other federal health programs | 2.3 |
| Administration on Aging | 0.7 |
| Food stamps | 0.6 |
| Title XX Social Services | 0.4 |
| Energy Assistance | 0.2 |
| Other | 2.4 |
| Total | 196.2 |

SOURCE: U.S. Congressional Budget Office, *Work and Retirement: Options for Continued Employment of Older Workers*, Washington: GPO, July 1982, p. 55.

Between 1960 and 1982, the CPI more than tripled. As a result, expenditures measured in 1967 dollars were $14.4 billion in 1960, and real spending on these programs in 1982 was five times the 1960 level. Thus, although two-thirds of the growth rate in annual spending on the elderly is due to price increases. there still has been a significant increase in

the real resources allocated to these programs. The proportion of the federal budget used to finance these programs rose from 13 percent in 1960 to 26.6 percent in 1982; the proportion of the gross national product allocated to these benefit programs rose from 2.5 to 5.9 percent (Califano 1978; Torrey 1982).

Another way to measure this growth is to note that the average benefit per person aged 65 and older increased from $768 in 1960 to $7,948 in 1982. If benefits had been increased only to reflect price increases, the average benefit would have been $2,516 in 1982; if benefits had risen in accordance with the growth in per capita disposable income, on the other hand, the transfer per elderly person would have been $3,663 in 1982. This increase is the result of the introduction of new programs, higher benefits under existing programs and less restrictive eligibility conditions. Thus, much of the "graying" of the federal budget has occurred because of explicit policy changes by the federal government (Clark and Menefee 1981). One important change in federal policy has been the indexing of government programs to changes in consumer prices. Presently, 86 federal programs now have one or more provisions that increase in response to a rise in some index, usually a measure of prices or wages (U.S. Congressional Research Service 1981). Indexing reduces the lag and uncertainty of increases caused by ad hoc adjustments.

## The Relative Impact Imperfectly Anticipated Inflation

In addition to changes in real income, there are general effects of inflation on well-being that arise from its unpredictability. Correctly anticipated inflation not entailing relative price changes causes people to hold less cash and make more frequent transactions, but these are relatively minor costs (Dornbusch and Fischer 1981; Gordon 1981). However, the

rate of inflation is seldom fully anticipated and higher rates of inflation tend to be accompanied by more relative price variability and by more variability in the rate of inflation (Vining and Elwertowski 1976; Bordo 198]; Parks 1978; Cukierman 1979; Logue and Willett 1976). When incorrectly anticipated, an inflation factor is not built into market transactions and institutions of an economy. This causes the basic losses in well-being and sense of unfairness that make inflation so unpopular.

The elderly share in losses to the whole economy from not fully anticipated inflation, but they are not likely to suffer more, on average, than other groups. Two factors are involved in their relative losses. First, any group that tends to be more mistaken in its inflation expectations would lose more. Given that the elderly have had more experience with economic and political change and have more time away from work to devote to market transactions, they may well do a better job of correctly anticipating inflation rates. Second, any group that has higher costs of adjusting investment and consumption patterns to changes in relative prices implied by inflation would lose more. The elderly are more likely to be retired and thus potentially more mobile; they have more time away from jobs to be used for leisure and consumption, so they may be more flexible in their buying and investment decisions. Thus, there is no presumption that the elderly suffer more or less from the welfare losses due to mistakes and adjustment costs than do others as the economy faces inflation.

## Summary and Implications

Earlier sections of this paper have been devoted to examining the historical record of improving real income of the elderly. this analysis will be useful for current policymaking only if general and continuing relationships exist. The objec-

tive of this final section is to assess the findings of this research for projecting the future status of the elderly.

The elderly tend to spend larger proportions of their incomes on food at home, medical care, and utilities than do younger families. Reasons for these differences include lower income for older families, more time at home, and declining health with age. These different spending patterns imply different sensitivities to relative price changes.

There is no theoretical reason to expect relative price changes of the 1970s to continue into the future. For example, house prices rose rapidly during the 1970s but rose at a slower rate during the early 1980s. Also, food prices have risen more than the CPI in some years and less in others. The importance of relative price changes in determining changes in well-being should not be overlooked, but existing research on age-specific price indices suggests that price increases affecting particular demographic groups do not deviate substantially from the increase for the general population. Recognizing substitution in consumption further moderates the effects of differences in relative price changes on the increase in the price of the market basket actually purchased by different groups.

These basic concepts and review of recent price changes indicate that relative price changes within a general inflation will have only minor effects on the well-being of the elderly compared to those for other demographic groups. Thus, the primary issue governing the effect of inflation on real income of the elderly is the responsiveness of their incomes to rises in the general price level and costs imposed by imperfectly anticipated price changes.

Earnings are determined by the amount of labor supplied and the market wage rate. Although labor supply falls with age, earnings remain an important source of income for

many older persons. Real wages rise with growth in productivity. There is no theoretical reason why growth in the real wage rate for older workers would deviate from this general pattern of wage growth in the economy. This source of income should not cause changes in relative income between the elderly and the total population, and, in general, real wage growth will contribute to rising real income.

Social security retirement benefits and other governmental transfers have increased rapidly in real value during the past two decades. Since government transfers are now a major source of income for older persons, their responsiveness to price increases is an important determinant in the effect of inflation on real income. If the recent legislative patterns were to continue along with the existing indexation of programs, the trend in real income of the elderly established during the last two decades could be expected to continue. However, many demographic, economic and political factors are changing in ways that will limit the growth of transfer payments to the elderly.

Social security legislation passed in 1983 represented the culmination of years of debate concerning the long- and short-run financial crises the system was facing. This legislation provided for significant changes in the system and provided for a projected funding balance over the next 75 years. While the basic tenants of the program were left unchanged, the 1983 cost-of-living increase was delayed six months and full indexing in the future was made conditional on the relative size of wage and price increases. These changes slightly reduce the inflation protection guaranteed through this major source of income to the elderly.

The aging of the population, especially in the first 20 years of the next century, will require a major restructuring of the total income maintenance system for the elderly. Either taxes must be raised substantially, benefits must be lowered or

funds diverted from other national priorities. The 1983 social security legislation attempted to address this long-run problem by raising the age of eligibility for full benefits to 67 in the next century. In addition, medicare must be reevaluated to prevent rapidly rising costs from producing large deficits; in the coming decades other transfers likely will be affected by this demographic pressure which may limit their future growth.

The increase in real benefits for older persons was stimulated in large measure by the belief that many older persons were destitute and private methods would not provide the necessary transfers. The rise in real and relative income of the elderly, along with a sharp decline in the incidence of poverty, has reduced or eliminated some of the pressures for major new programs or increases in real benefits for the elderly in general. Recent budgetary initiatives have reduced benefits and tightened eligibility conditions for medicaid, food stamps, and other welfare programs that provide benefits to some older persons. Social security and medicare benefits have also been altered during the early 1980s.

The trend toward indexation of these benefit programs is attributable to the still commonly held view that the elderly live on fixed incomes. The full and perhaps over indexation of benefits during the past decade when real wages were falling has sharply challenged this belief. As a result, the indexation of social security, government pensions, and other transfers has been critically examined and numerous proposals for their reductions have been made. Changes in the methods of indexing federal pensions and food stamps have already been enacted and further modification of other indexing provisions seems likely during the 1980s.

High rates of inflation may cause financial institutions to be altered so that future payments reflect price changes. For

the elderly, one of the most important of these institutions is the employer pension system. Available evidence indicates that real pension benefits after retirement have declined with inflation. This is despite the fact that many firms provide ad hoc increases. A more formal adjustment mechanism would seem likely if high rates of inflation were to continue for another decade.

Real income from assets depends on changes in the relative rate of return to the items in an individual's investment portfolio. Rates of return fluctuate over time, with price changes in houses, gold, diamonds, and stocks being recent examples. Wealth allocation decisions of the elderly will be based on expected future inflation rates and real rates of return to their assets. In such a framework, the expected effects of inflation on the real wealth of the elderly should not differ greatly from its effects on the rest of the population.

Older persons also consume from their stock of durable goods. These goods include the family car, home, furniture, applicances, etc. The nominal value of consumption rises as the replacement costs of these durables rise. The real value of consumption from durable goods should be unaffected by price increases and since the elderly often have a relatively large stock of durables, the "indexation" of this income source is important.

This summary indicates that most sources of income of the elderly rise in response to increasing prices. There is no fundamental reason to expect real earnings or return to assets to fall with inflation. Most government transfer programs are currently indexed to reflect price increases automatically. However, policy changes in the next few years may alter these provisions. Nominal pension benefits have been increased, but, in general, these increases lag behind price changes; however, future institutional changes may moderate this effect. Thus, income from private sources is not fixed.

Our analysis shows that currently it is not true that the elderly live on fixed incomes and are, therefore, more vulnerable to inflation than the total population. This is especially true for low-income older persons who receive almost all of their income from public sources. Did the elderly ever live on fixed incomes? This question is beyond the scope of this paper; however, several issues are relevant. Prior to World War II, over half the men aged 65 and over remained in the labor force and thus had earnings that rose along with those of other workers. Many lived on farms and retained control of the extended family's resources. Transfers from the family may have been replaced by government transfers during the past several decades.

In the future, the effect of inflation on the real income of the elderly will depend on private responses and government changes. Will children increase their support for their aged parents? Will individuals alter their lifecycle savings plans to provide increased wealth for old age? Will the trend toward early retirement be reversed? Will changes in political and economic climate lead to a reversal of existing inflation protection of the income of the elderly? Answers to these questions will determine the future level of income and the effects of inflation on the well-being of the elderly.

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# 6 Over the Hill and Under the Weather

## Age v. Health

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### *Introduction*

If there is an article of faith among gerontologists, it is that chronological age is irrelevant. Over and over again, we are told that some persons are ready for retirement in their 30s and 40s, while others are responsible for great philosophical or scientific achievements well into their eighth and ninth decade of life.

Examples of age and creativity are cited in the column by Cyril F. Brickfield, executive director of the Association of Retired Persons.[1] Jessica Tandy at age 74 opened triumphantly on Broadway in the demanding role of Amanda Winfield in the revival of Tennessee Williams' "Glass Menagerie." Her performance was widely acclaimed by the drama critics. Just down the street, Rex Harrison, at age 75, opened successfully in the revival of "Heartbreak House" by George Bernard Shaw, who continued to write plays until late in life.

The same evidence is clear from last year's Nobel Prize awards. At age 81 Barbara McClintock won the Nobel for medicine while Subrahmanyan Chandrasekhar, 73, and William Fowler, 72, shared the prize for physics.

Other examples abound. Benjamin Franklin invented bifocals at age 78; Giovanni Colle at age 70 provided the first

definitive description of blood transfusion and Benjamin Duggar discovered a life-saving antibiotic at age 76. Brickfield concludes that creativity can occur at any age, even at advanced ages, and creativity in old age is not found only among the rare individuals who are famous.

The absurdity of the compulsory retirement age is dramatized neatly in a letter from Bernard L. Baer in the *New York Times,* February 19, 1984. At age 73 Baer voluntarily retired and after a year of frustrating idleness began to look for jobs. He maintains he was 100 percent able mentally and physically but was consistently and regretfully turned down because of age. His background was in sales promotion, advertising and management. In desperation, he revised he vita, simply lying by taking 11 years off his age. Within two months he had a job.

Seven years later, even though he claimed he received merit increases and additional responsibilities every year, he was mandatorily retired at age 70. He was actually 81 at the time and as able physically and mentally as when he retired, according to his own version of events. This is one illustration of how ridiculous mandatory retirement can be. He notes, as many others have, "some people become incapable in their 70s, 50s, 40s and 30s; many retain the capability beyond their 70s. They should be appraised accordingly and not automatically dispensed with."

I do not challenge this precept. Personal observation confirms that some people of rather tender age would be happier retired or at least not working in their current occupations. But I cite one fundamental advantage of chronological age—that is its definitiveness. All one needs to prove age is a birth certificate, but once we discard the criterion of a chronological age, we must seek substitutes. If there are differences among people in terms of ability and performance on the job, how does one begin to think about measuring

them? Once we forget the number of years one has spent in this world, we must move on to less definite criteria to judge ability to do the job at hand.

As it turns out, this is the mirror image of the problem that those of us who have been interested in the economics of disability have been struggling with for years. To distinguish among those persons in the population who should be classified as disabled and those who should not, to determine who is qualified to receive a transfer payment because of a disabling condition and who is not, is a very old problem. In the disability case, the quest is for a measure of physical and mental functional limitations; in the retirement case, it is a search for measures of performance which probably depend on residual functional capacities.

In this paper we examine the disability experience to show how difficult the problem of determining disability status has been. Nothing in the disability experience provides any aid or comfort to those who allege that we should eliminate compulsory retirement and judge persons by their ability to do the job.

We first look briefly at the improvements in longevity which are the reasons for the problem receiving so much recent attention. Scholars disagree as to whether the declines in mortality are associated with improvements or declines in health status. We discuss that controversy and conclude that if our interest is in work ability, then it is something more than health that we must be concerned with. It is not even "active life expectancy," but the decision to participate or not participate in the labor force.

We examine the disability record from ancient days to present to show how difficult disability determination decisions have been. Even where sophisticated models seek to include all relevant variables, it is the health measures which prove to be most elusive. Examination of that experience leads us to

advice caution in eliminating employers' freedom to retire persons after a certain age.

***Improvement in Longevity***

What seems to be undisputed is the improvement in mortality rates in this century.[1] The greatest relative improvement has occurred at the young ages, resulting largely from the control of infectious diseases. The probability of death at age 0 decreased 90 percent between 1900 and 1980, but look what has happened to those who survived to age 65. At age 65 the probability of death decreased 30 percent from 1900 to 1980 for males and 61 percent for females, a gap I expect to see narrowed as women become increasingly subject to the same pressures and hazards as men. In the meantime, those males lucky enough to survive can look forward to this unbalanced relationship among the sexes.

We are dealing with a relatively new phenomenon. Life expectancy at age 65 increased very little from 1900 to 1930, but since that time there have been rapid gains in life expectancy at age 65 that have occurred for both males and females, though again the females having the greater gains.

Incidentally, in spite of these improvements in mortality rates, we should expect a decline in the net annual increase in the number of social security beneficiaries at the turn of the century. The low fertility rates during the 1930s will be reflected in a considerable reduction in the rate of increase in the population over 65 during the 1990s in spite of any improvements in the mortality rate. This will come about just at the time when the baby boom generation born after World War II will be swelling the labor force.

After 2015, the growth in the labor force is expected to slow down reflecting the decline of fertility rates which began in the mid 60s. It is then that we expect social security

financing problems, which can be alleviated if workers retire later.

### *Improvements or Declines in Health*

There come now the controversial issues. Alicia Munnell forecasts that tomorrow's elderly will have improved life expectancy, better health, and more education than those retiring today.[3] On two of these accounts, there can be no faulting Ms. Munnell—improved life expectancy and more education. The question of better health is one that is in question.

In sharp contrast to Munnell's position is that taken by James H. Schulz who believes that increased longevity does not necessarily mean more surviving older persons will be able to work. He emphasizes the many health factors that operate to reduce mortality may also reduce the employability of older persons. Examples include: improved survival from myocardial infarctions among the disabled; the persistence of the incidence of arthritis or any of a number other disabling conditions that do not generally cause death; successful treatment of individuals with problems such as diabetes that previously would cause early deaths but that are still disabling, and alcohol or drug abuse.[4]

This discrepancy in the viewpoints of these two eminent scholars has been pointed out by Michael Taussig in his discussion of the two papers and it is Taussig who notes that pension policy decisions depend critically on who is right.

> "We expect that continued improvements in medical care and technology will—in the absence of nuclear war or some other catastrophe of comparable magnitude—cause a large increase in the number of persons who survive until, and well past,

> the traditional retirement ages in this country. We do not yet know, however, whether the expected increase in longevity will cause a corresponding increase in the number of *dependent* aged persons. If the aged workers of tomorrow is healthier than either his or her counterpart today, and if there are sufficient attractive job opportunities, then increased longevity will not necessarily mean increased dependency."[5]

The same controversy runs through the early reports of the National Commission on Social Security, as Jacob J. Feldman has pointed out. In the March 1981 report, the majority position was that increased longevity will be accompanied by a corresponding increase in active life. Also, that periods of diminished vigor associated with aging will decrease so that the chronic disease will occupy a smaller proportion of the typical life span. Yet a minority of the Commission contended that the evidence does not support any claim that longer life is equivalent to longer years of good health. Feldman notes that the current state of knowledge does not permit a definitive resolution of that controversy.[6]

Noting the dramatic decline in death rates, Feldman asks whether that decline among persons 50 to 69 years of age is tantamount to improved health and working capacity. He notes first of all some short term trends. Using data from the National Health Interview Survey, he notes that 21.9 percent of men aged 65 to 69 answered that they had activity limitations that prevented them from working in 1970 a percentage that increased to 24.9 in 1975 and 25.2 in 1980.

Even greater differences are to be found among the other age groups in the 50 to 54, 55 to 58 and 60 to 64 ages. This increase took place during a period of rapid decline in death rates for men in these age groups. Some suggestive data

Feldman cites indicate that if we go back further, the disability or activities limitation rate for men age 55 to 64 was about 10 percent in 1949 and even lower in 1935.

As Feldman notes, morbidity is difficult to quantify as opposed to the relative ease of measuring mortality. Social security actuaries rationalize their ignoring morbidity rates on the grounds that mortality and morbidity are correlated; when mortality improves, morbidity also tends to improve.' Feldman disagrees. He believes that a decline in mortality rates can be connected with an increase in morbidity rates. Life-threatening conditions are not the same as disabling conditions. While there is obviously some overlap, a great deal of disability is caused by conditions that are not lethal. Musculoskeletal conditions are the cause of a large proportion of work disability. Arthritis, for instance, does not appear to shorten one's life span to any great extent. In his view, there is no reason why reductions in mortality rates should result in a reduction in the prevalence of arthritis or any of a number of other disabling conditions that are generally not lethal.

*Active Life Expectancy*

Since there is sharp disagreement about whether mortality and morbidity are closely correlated, it is necessary to have something other than improvements in mortality rates if we are to have confidence in estimates of the future labor supply of older workers. The problem has been addressed by a Massachusetts research team headed by Dr. Sidney Katz who developed a concept of "active life expectancy." They use life tables techniques to analyze the expected remaining years of functional well-being for their sample of noninstitutionalized elderly people living in Massachusetts in 1974. Waves of these people were interviewed at periodic intervals. They found that the expected years of active life expectancy range from 10 years for those 65 to 70 years to 2.9 years for

those 85 years or older. Active life expectancy is shorter for the poor than others and women had a longer average duration of expected dependency than men.[8]

It is a clever idea to construct life tables, not in terms of expected date of death, but expected date of incapacity; the contrast is between active versus inactive life. But the difficulty is that the contrast is too sharp, the division too abrupt. Scales of activities of daily living measure too much. The scales measure six basic functions; bathing, dressing, going to the bathroom, transfer, continence and eating. These are essential biological functions.

If, however, interest is in whether people are ready to go to work or not go to work, then it is obvious that some persons who may score quite high on these activities of daily living scales are still not necessarily able to jump into the labor market. Measuring limitations of persons based on essential biological functions is to move just one step from the mortality scales themselves.

*Health, Labor Supply and Survey*

One of the problems noted by Newquist and Robinson[9] is that health data, especially for the older population, has been gathered for purposes other than employment policy analysis. The problem is that the investigators discuss the problem in terms of morbidity factors, or in terms of activities of daily living and these are clearly inappropriate. What is necessary is to get some concept of health which is applicable to the work decision and, at the same time, to recognize that health is only one of the factors that will affect whether older persons are going to be active participants in the job market. In short, what we are dealing with here is a complex labor supply issue, complicated by this notion of what constitutes health and what does not constitute health and how one can measure it.

This is a relatively old problem. It arises in theoretical and empirical models of labor supply as researchers attempt to include a health variable. The problem is present in surveys which attempt to examine the number and characteristics of disabled persons in the population. It has been a leading problem for years in all of the programs designed to compensate persons who have disabling conditions. These include tort cases where juries set indemnity payments according to disability status, workers' compensation programs, and of course, the Social Security Disability Insurance program.

### *The Ancient Origins of the Problem*

The notion of compensation for injuries can be traced back to the code of Hammurabi (1945-1902 B.C.). The essential advance in Hammurabi's code was the partial substitution of "compensation" to replace "retaliation."[10]

One clear illustration of how compensation replaced retaliation is found in Exodus, Chapter 21, verses 18 and 19:

> 18. And if men contend, and one smite the other with a stone, or with his fists, and he die not, but keep his bed;
>
> 19. If he rise again and walk abroad upon his staff, then shall he that smote him be quit; only he shall pay for the loss of his time and shall cause him to be thoroughly healed.

The commentaries explain that compensation is awarded on five grounds for damage, for pain, for healing, for loss of time and for insult. (Insult apparently refers to payments made when the harm was intentionally inflicted.) Liability for healing extended to payment of medical costs. The commentaries are quite specific as to when liability ceases and under what conditions the case may be reopened, to use the modern phrase.

The commentaries speak of payment for damages in what appears to be strikingly modern terms. The idea was to look at the injured person, to appraise his worth before the injury, and to contrast it with what he would be worth with the impairment. In a perfect market, the difference would be the present value of the future net product of the whole person as contrasted with the impaired one. Of course, in those days, there were examples at hand with slave markets, and these capitalized values could be observed. They did not have to be estimated by probabilistic functions dependent on imperfect knowledge of future earnings streams.

The ancient examples permit us to look at several facets of disability. In ancient codes and in modern day workers' compensation, disability is often equated with a loss of limb, loss of an eye, or loss of hearing. Such losses are, of course, permanent. For purposes of both labor market analysis and disability analysis, it is permanent, chronic or long term, not short term, phenomena or acute illness, that is relevant. The permanent aspects are rather gruesomely exemplified by amputation, which is not only long term but quite permanent.

Another dimension that has to be focused on is the concept of partial versus total disability and it is obvious, even in ancient days, that a man could sustain rather extensive physical damage and still participate to some extent in work. Thus a persons is not either disabled or not disabled, but there are various degrees of disability. The extent of disability becomes particularly important when trying to assess the labor force chances of older persons.

### *Workers' Compensation Experience*

Soon after workers' compensation was itnroduced in this country, beginning in 1911, the state laws provided for schedules derived from experience with private insurance carriers and from some of the European laws. Schedules

soon became hallmarks of compensation statutes. Essentially, these provided for a price, possibly the number of weeks of compensation that was to be paid, for specified losses. They detailed the prices of parts of the body. If a person lost a finger, toe, or wrist and arm, the amounts of compensation due him would be listed in the schedule, thereby minimizing administrative discretion.

Eminent legal scholars argue about the nature of the system. Larson believes it was a matter of operationalizing a wage-loss system appropriate to large scale mass social insurance programs.[11] In effect, the schedules provided a way to proxy the wage loss suffered by some average person with these particular losses. Whatever the intellectual and theoretical justification, the schedules never lived up to their promise. The trouble was that persons simply did not always lose limbs at the particular joints specified in the schedule. More important, if the law that is going to compensate a person for loss of an arm triggers a particular amount of compensation, why not pay an equal amount for the *loss of use* of that arm? But once you consider loss of use and injuries to parts of the body not specified on the schedule, such as the back or head, you are into an area where discretion has to be used, thus defeating the purpose of the schedules.

The point to be made is that there are difficulties involved in assessing the amount of disability payments due a person with a particular type of work injury. The problem has been recognized for years and years under our workers' compensation statutes.

In workers' compensation, the worker alleges either that he cannot now work at all, or that he cannot now work at the level of energy or capacity that he could prior to his injury, or that his injury has left him in a condition that will interfere with his future ability to perform tasks in the same manner and method as he could have, had he not incurred

that injury. The workers' compensation commissions therefore have the task of deciding whether there has been any such interference with the work potentiality of the individual and if so, how that deficiency can be measured. As noted above this is the mirror image of the problem faced by the aged. In the retirement case, it is the worker who alleges that his ability to work at his task, in the same degree of efficiency and manner as before, has not been impaired. The employer who advocates retirement of the worker, alleges otherwise. Consequently, the question arises as to the appropriate tests of limitation or residual capacity.

In workers' compensation where the schedules are not appropriate (the vast majority of cases in most states), the commissions have developed several different theories to determine payment.

In some jurisdictions, payments will be made if the worker can demonstrate specific physical or mental impairment. Other states will not pay unless the worker can demonstrate actual wage loss. Jurisdictions in between, as it were, attempt to evaluate a worker's loss of wage-earning capacity.

In any event, each of these methods has its distinct limitations. Physical impairment is difficult to measure and more difficult to translate into compensation payments. It is one thing to be able to evaluate physical losses and another to be able to price these losses in some way that is meaningful in the labor market.

When it comes to wage loss, a method that is now being widely touted because of its recent adoption in the State of Florida, there are obvious difficulties. Michigan, for many years, had a wage-loss system in workers' compensation, but unfortunately, the complexities of the system, the institutional arrangements, or other factors resulted in most cases ending up in compromise and release settlements.[12] So, although Michigan technically had a wage-loss system, it was

to all intents and purposes really a bargaining system based on a workers' physical condition.

Michigan also had a problem which was unique among the states. Many workers who retired from automobile plants simultaneously filed workers' compensation claims. The so-called retirement problem exposed, in raw relief, the essential issue with which we are concerned. To what extent are workers who formally retired realistically in the labor market? Interestingly enough, in the Michigan cases, the claim was that the retirement status did not bar access to the labor market, rather it was alleged that some physical condition incurred during working life prevented working at the wages that otherwise would have been earned. The terrible complexities of that situation again argue for a certain arbitrariness in defining an age of retirement, no matter how inequitable this may be to particular individuals.

It seems to be quite clear that no workers' compensation program had the lock on a perfect solution to its problems. All that can be said is that some states that actively intervened in the administration process and combined rehabilitation techniques with its administration of benefits were more successful than others who depended on purely legal administrative methods.

### *Social Security Disability Insurance*

The problems of workers' compensation were well known to the framers of our national Society Security Disability Insurance Act.[13] Although it was thought that disability insurance would come on stream early in the history of social security, as a matter of fact the federal government entered the field with the disability freeze in the 1950s and it was not until 1960 that we began a full-fledged disability insurance program.

Two of the pitfalls were neatly eliminated in the disability insurance program of social security. One was the decision not to pay any permanent partial benefits. Either a worker was to be considered disabled or not disabled. This decision created a host of problems even as it solved others. There was no easy way to dispose of doubtful cases. The other problem eliminated was the confusion over retirement and disability. Workers could collect disability insurance only up to the age of 64. At age 65 they would receive social security retirement benefits. No one over the age of 65 was eligible to receive disability insurance benefits on their own account.

The definition of disability under the Act was the inability to engage in substantial gainful activity that is due to a physical or mental impairment that is expected to last at least 12 months. To be considered disabled under this rather stringent definition, a person has to be unable to perform any work which he is reasonably qualified to perform, anywhere in the economy. It was not a test that depended on the ability to perform th duties of one's job, or even one's occupation.

Although all workers age 50 and over were entitled to collect disability insurance payments as early as 1956, it was not until 1960 that the program became a general one for all covered workers below age 65. Thus we have not yet seen a full generation of workers who are covered by the Social Security Act disability provisions pass through their working lives.

By 1970 we were paying out about $2.7 billion a year in disability insurance benefits, an amount that increased to $7.6 billion by 1975, a 175 percent increase. The increases in the program continued between 1975 and 1976, reaching $11.1 billion in 1977. Although payments have not peaked, the number of beneficiaries did at about that year, and since then, the increases in payments have been modest, ranging about 9 to 10 percent each year in payments as wage levels

have escalated. All told, from 1970 to 1980, there has been a 436 percent increase in disability insurance payments.

Although the decline in the numbers of beneficiaries began to come as early as 1977, the public consciousness of this decline did not surface until a good bit later. It was the 1980 amendments to the Act which tightened the administrative regulations as to who should or who should not receive benefits. More important, they provided for a review of these benefits and it is the administration of this review which has created a great deal of public concern over the last several years, especially for those persons with mental illnesses.

The problem is a familiar one and it is exactly the same problem that we have had in workers' compensation and in every disability program. How does one tell whether one is disabled; under what conditions does one buy this ticket out of the labor force? Bear in mind that the pressure to increase retirement ages and to stay in the labor force has been matched by this pressure for certain people to get out via the disability benefits.

The problem has been that the criteria actually used depend a great deal on the showing of some severe medical impairment. Probably 80 percent of the awards are made to applicants who have one or more impairments equivalent to those listed in the federal regulations. It is only for people who do not meet these so-called "medical listings" that consideration is given other factors such as the person's training, education and experience.

This possibility excessive reliance on medical conditions ignores the fact that there is a large gap between medical condition, on the one hand, and the withdrawal from the labor force which is the prerequisite for disability benefits, on the other.

*Not Medical Condition Alone*

My reasons for emphasizing this difference comes from two sources, one sociological and one economic. The sociologists, largely influenced by Saad Nagi and others,[14] have emphasized the differences between medical condition, impairment, functional limitation, and the resulting disability. They recognize that a medical diagnosis based upon symptoms and signs and classified largely according to body systems, is useful to the physician interested in cure, but possibly irrelevant to the problem of work, in part because of the large differences in the extent of severity of any condition.

The issue is whether or not that medical condition leads to an impairment, the enervation of a nerve or the loss of a limb to take an extreme case. From there, we need to know whether or not that impairment results in any functional limitation. We are thinking of such things as ability to lift, to carry, to stoop, to bend, to walk, or in the case of mental impairments, the equivalent of functional limitations which may be the ability to relate to others or to tolerate the stresses of a normal job. I will return to that problem of getting the equivalent of functional limitations in mental illnesses in a moment.

From an economic point of view, it is essential that we have some measure of functional limitations as a health variable in an attempt to explain whether or not people with disabilities choose or do not choose to participate in the labor force. What the framers of the disability insurance law and, for that matter, workers' compensation laws never recognized explicitly, but always recognized implicitly, is that there are disincentive effects to these benefits. These disincentive effects are related to the generosity and the leniency of the disability transfers generally. The matter is well put by Barbara L. Wolfe:

> The older disabled person's work/retirement choice depends on potential earnings in the labor market, the availability and generosity of disability-related transfers and other income support programs and the disability status of the individual. Disability status reflects limitations of physical, mental or emotional sort which reduce the worker's ability to perform the required functions of jobs which he is on other grounds qualified to hold. It is a concept that links impairment with the requirements of specific jobs.[15]

The work that as been done thus far attempts to measure the income and substitution elasticities associated with changes in net wage rates on unearned income generated by income transfers. Several studies have attempted to look at this problem.[16] Wolfe points out the problem with these studies, including their choice of the variable to represent health is that some of them do not capture severity, duration or the relation of functional limitations to past or available occupations. There are other problems relating to the measurement of availability of disability-related transfers and the fact that some of these leave out labor demand variables and include only a few labor supply variables.

Some of the problems with the so-called first generation studies have been remedied in the second generations of these studies.[17] Each of the later studies is a fairly sophisticated work-choice model, and each of them has difficulties in dealing with so-called true health status of the employee.

Parsons, as Wolfe points out, uses subsequent mortality as his health status measure. But as we have discussed above, there is a great deal of controversy about the relationship between mortality and morbidity. Wolfe also points out that Leonard's disability status indicator consists of 27 specific

health problems, diseases, conditions and infirmities. It poses a number of difficulties. It gives no indication of severity, it gives no indication of degree of functional limitations and it is not linked to job requirements.

Slade's disability measure indicates whether or not the individual reports that he or she is limited in getting around. This simple self-reported status has a number of problems. Wolfe notes that since it is measured contemporaneously with labor force participation, it may reflect the individual's taste for work and, hence, it may be endogenous to the model.

The Haveman and Wolfe disability measures are self-reported measures and while they convey duration and intensity, they are very general and may be subject to the charge that they allow the legitimization of failure. Persons who are unsuccessful at work may be motivated to define themselves as permanently sick in order to legitimize their self-defined failure. All of these measures capture only some limited dimensions of the relevant concept of disability.

### *Functional Limitations Again*

What is needed for purposes of econometric surveys, for the various transfer payment programs, and I believe for the retirement decisions for aged persons, is a better measure of functional limitations.

The search for these measures has been going on for some time. The American Medical Association, as far back as 1971, under the guidance of a committee chaired by Dr. Henry Kessler, issued the *Guides to the Evaluation of Permanent Impairment.*[18] Here we have a detailed look at essentially physical impairment or functional limitation measures. Such measures required a physical examination to determine, for example, the extent of flexion of the extremities. The *Guides* specify the exact percentage of disability that

ought to be assigned for particular conditions. This is a heroic attempt to deal not only with the extremities but to deal with the evaluation of permanent impairment of backs, heart disease and a number of other types of condition which would not ordinarily be thought of as being scheduled.

We also have to note the attempt by the Social Security Administration in its survey to deal with measures of functional limitations by self-reported responses. These obviously do not go far enough. It should be possible to develop these scales so as to give us some clue as to whether or not a person is capable of working, insofar as his health is concerned.

We think a promising beginning is made in the so-called functional assessment inventories developed by the University of Minnesota. We are currently engaged in a research project where we are trying to test these as measures of functional limitation in a vocational rehabilitation program.[19]

What all this boils down to is that the same issues that arise as we deal with disability can crop up as we seek to measure ability. If one wishes to eliminate compulsory retirement age, residual functional capacity measures become important. We have to get down to looking not at a medical condition classification or even impairments, but rather whether or not a person is able to carry out the physical and mental functions required by the job or by any job. In this regard, there is no doubt that the area we know least about has to do with mental impairments. That evaluating mental impairments and the residual functioning capacity is a troublesome problem is nowhere more apparent than in the Disability Insurance program. Most of the controversy has arisen in this area as more and more persons have been denied benefits in this review process which began in 1981.

Over 900,000 beneficiaries were evaluated as to their eligibility status and almost 400,000 of these lost benefits as a

result of these investigations. A disproportionate amount of those who lost benefits were persons with mental impairments of one sort or another. Conceptually, we are just beginning to understand what the equivalent of physical limitation or functional capacity for mental impairment is. It is obviously necessary that we consider such things as carrying out and remembering instructions, responding appropriately to supervision and coworkers and reacting to customary work pressures in a routine work setting.

### *Measuring Ability of Older Workers and Retirement Issues*

Ability or inability to work because of a mental or physical impairment is difficult to determine, but however the issue is decided, we know that examination of that person's medical condition is not enough. It is not the medical condition, but the consequences of that condition—how that condition affects an individual human being's mental and physical functioning that counts, and even that is not enough. We must look at how the limitations or residual functioning capacity interacts with a host of other factors to determine that person's labor market chances.

These complex considerations are the same whether we are considering the injured worker fighting to retain his job, another worker doing his best to maximize his disabling conditions so as to leave the labor force, the older worker who is seeking to retain his position or the employer seeking to retire him at age 65.

The dispute that rages over whether improvements in longevity will mean an increase in healthier workers fighting to stay in the labor force or an increase in impaired older persons who will become dependent on the working population probably centers around the wrong issues. Here again, it is not simply a question of possible changes in morbidity levels

of older workers. Their health must be considered together with such factors as their education, their training, the condition of the labor market and the levels of social insurance benefits. Does that mean that health is not important? No, but it is their physical and mental functioning, not their medical conditon, that is going to be the important health variable to be considered.

Are we serious about wanting to encourage the participation of older workers in the labor force? Are we serious about eliminating compulsory retirement age? If we are, it calls for action on all fronts, not merely passing legislation which imposes costs without assurances of corresponding benefits. We will have to think not only about education and training programs but retraining programs as workers progress through their life cycles. If we are going to live in a rapidly changing high technology economy, and if we want to have workers equipped to deal with its problems, it is obvious that one injection of education which concludes at age 22 or 23 is not sufficient to carry workers over the next four, let along five or six decades of life.

It is just as obvious that our retirement policy is affected by levels of social insurance benefits and particularly by how we penalize workers who retire early or reward them for staying past the normal retirement age. The 1983 amendments to the Social Security Act will increase normal retirement age to 67 by 1990 and increase the benefits for workers staying past their normal retirement age.

Bear in mind that the argument for abolition of compulsory retirement centers around the notion that chronological age is irrelevant. That sword cuts both ways. Some older people are competent past the age of retirement and some younger people are incompetent prior to the age of retirement. Eliminating the compulsory retirement age means that we have to get serious about tests of performance

for younger workers, and to the extent that health is important, as I think it is, we have to get serious about devising measures of physical and mental limitations which can be applied in sufficiently standardized fashion so as to move the discussion away from medical diagnosis to tests of function.

Our experience with disability programs should give us pause, but at least the right questions can be asked. If we have no compulsory ending point to the work experience and we substitute tests of performance, these may well be applied to workers long before they reach what used to be the arbitrary age of retirement.

Is has always been an eligible defense against a charge of poor performance for a worker to note that, whatever his level of performance, it has not changed. If it has been condoned for years by the employer, arbitrators have been unwilling to view low levels of performance as a cause for termination. That kind of argument is spreading as dismissal cases move into law courts in nonunion situations as the doctrine of "employment at will" seems to be deteriorating. In short, if one seeks to terminate an employee, it is necessary to show that something has changed. For this and other reasons, we need particularly sensitive measures of physical and mental functioning, if not general performance appraisals.

Possibly this may be placing too great a burden on arbitrary tests and on our systems of dispute settlement, be they arbitration or the courts. It might be that we could make use of the doctrine of presumptions. We could set an age of retirement, be it 65, 67 or 68, and if an employer seeks to retire someone prior to that age, we could require him to show that the workers is no longer able to meet the legitimate requirements of the job. Or that his physical or mental functioning, if we deal with it at that level, has deteriorated to the point where he is not able to carry on. The presumption

would be used in the opposite way for situations past that age where the employee would have to carry the burden of proof. In short, if the employer sought to retire a person past that age, the presumption would be that that would be O.K. but that the employee would now have the burden of showing that he or she was competent to perform the requirements of the job and that he or she has the requisite physical and mental capacities to perform the necessary tasks.

The use of presumptions might minimize litigation but one cannot be too sanguine about its possibilities. It is sad but true that, since the ancient days of Babylonia, we have found no satisfactory way to determine the disability status of an individual. There simply is no reason to believe that we could do much better if we seek to determine, in some legal sense, the "ability" status of an older person who the employer seeks to retire.

We should recognize that there are limits on what governments can accomplish in this field. It is one thing to say that compulsory retirement at a predetermined age is a bad policy; it is another to say that governments should attempt to forbid an employer from retiring a person at that age.

The arguments against governmental interference in this area go beyond the usual ones which relate the advantages of private decisionmaking. We simply lack the technical knowledge to derive administered tests of ability applicable to the wide range of occupations and industries in the U.S. Without such substitute tests, eliminating the chronological age test promises to usher in extensive litigation and to impose other costs on private employers to the detriment of our competitive situations. If this is too extreme a position and if notions of discrimination on the basis of age, any age, are firmly entrenched, then laws prohibiting compulsory retire-

ment are not enough. An integrated national policy requires us to move on several fronts: to reexamine our programs of education and training and our prevailing pay practices, to recognize the incentives and disincentives posed by the social insurance programs, and possibly simply to brace ourselves for yet another wave of litigation as arbitrators and courts consider essentially the same kinds of issues they have been struggling with in the disability area.

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